

COASTAL RESOURCE AND DEVELOPMENT POLICIES

Reprinted from Part II, Chapter Four of :

State of New Jersey
Coastal Management Program
Bay and Ocean Shore Segment
August 1978
Final Environmental Impact
Statement

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Department of Environmental Protection
Division of Marine Services
Office of Coastal Zone Management
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State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION TRENTON

DIVISION OF MARINE SERVICES

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COASTAL RESOURCE AND DEVELOPMENT POLICIES

Note to Reader

This chapter defines substantive coastal policies to guide public decisions about significant proposed development and management of resources in the Bay and Ocean Shore Region of New Jersey's coastal zone. A three step decision-making process is used in order to increase predictability and add more specificity to the coastal decision-making process.

The entire chapter has been adopted as administrative rules (N.J.A.C. 7:7E-1.1 et seq., effective September 28, 1978). It is reprinted from the State of New Jersey Coastal Management Program for the Bay and Ocean Shore Segment where it appeared on Chapter Four on pages 27-163. For further information, contact: David N. Kinsey, Chief of the Office of Coastal Zone Management at the above address or at 609-292-8262.

TABLE OF CONTENTS

	Page
<u>COASTAL RESOURCE AND DEVELOPMENT POLICIES</u>	27
1.0 General	27
1.1 Purpose	
1.2 Authority	
1.3 Jurisdiction	
1.4 Severability	
1.5 Review, Revision, and Expiration	
2.0 Coastal Decision-Making Process	30
2.1 General	
2.2 Principles	
2.3 Definition	
2.4 Pre-Application Phase	
2.5 Application or Project Review Phase	
2.6 Information Requirements	
3.0 Location Policies	33
3.1 General	33
3.2 Special Areas	34
3.2.1 General	
3.2.2 Shellfish Beds	
3.2.3 Surf Clam Areas	
3.2.4 Prime Fishing Areas	
3.2.5 Finfish Migration Pathways	
3.2.6 Submerged Vegetation	
3.2.7 Navigation Channels	
3.2.8 Shipwrecks and Artificial Reefs	
3.2.9 Marine Sanctuaries	
3.2.10 Beaches	
3.2.11 Coastal Wetlands	
3.2.12 High Risk Beach Erosion Areas	
3.2.13 Dunes	
3.2.14 Central Barrier Island Corridor	
3.2.15 Historic Places	
3.2.16 Specimen Trees	
3.2.17 White Cedar Stands	
3.2.18 Endangered or Threatened Wildlife or Vegetation Species Habitat	
3.2.19 Critical Wildlife Habitats	
3.2.20 Public Open Space	
3.2.21 Steep Slopes	

TABLE OF CONTENTS - Cont.

	Page
3.2.22 Farmland Conservation Areas	
3.2.23 Bogs and Freshwater Wetlands	
3.2.24 Ephemeral Stream Corridor	
3.2.25 Special Hazards Areas	
3.2.26 Excluded Federal Lands	
3.2.27 Borrow Pits	
3.3 Water Areas	63
3.3.1 General Definition of Water Areas	
3.3.2 General Policy on Uses of Water Areas	
3.3.3 General Rationale for Water Areas Policy	
3.3.4 Water Acceptability Table	
3.3.5 Definitions of Water Body Types	
3.3.6 Rationale for Policies by Water Body Types	
3.3.7 Definitions of Water Uses	
3.3.8 Water Acceptability Conditions by Water Uses	
3.4 Water's Edge	83
3.4.1 General Definition of Water's Edge	
3.4.2 Natural Water's Edge	
3.4.3 Retained Water's Edge	
3.4.4 Filled Water's Edge	
3.5 Land Areas	90
3.5.1 General Definition of Land Areas	
3.5.2 General Policy for Land Areas	
3.5.3 Coastal Regions	
3.5.4 Environmental Sensitivity	
3.5.5 Development Potential	
3.5.6 Definition of Acceptable Intensity of Development	
3.5.7 Land Acceptability Tables	
3.5.8 Determination of Location Acceptability	
3.6. Policy on Location of Linear Development	
3.7 General Location Policy	
4.0 Uses Policies	115
4.1 Purpose	
4.2 Housing	
4.3 Resort-Recreation	
4.4 Energy	
4.5 Public Facility	
4.6 Industry-Commerce	
4.7 Ports	
4.8 Coastal Engineering	

TABLE OF CONTENTS - Cont.

	Page
5.0 Resource Policies	147
5.1 Purpose	
5.2 Marine Fish and Fisheries	
5.3 Water Quality	
5.4 Surface Water Use	
5.5 Groundwater Use	
5.6 Runoff	
5.7 Soil Erosion and Sedimentation Control	
5.8 Vegetation	
5.9 Wildlife	
5.10 Air	
5.11 Public Services	
5.12 Public Access to the Shorefront	
5.13 Scenic Resources and Design	
5.14 Secondary Impacts	
5.15 Buffers and Compatability of Uses	
5.16 Solid Waste	
5.17 Energy Conservation	
5.18 Neighborhoods and Special Communities	
5.19 Traffic	
5.20 High Percolation Wet Soils	
5.21 Wet Soils	
5.22 Fertile Soils	
5.23 Flood Hazard Areas	

- *****
- 1.0 General
 - 2.0 Coastal Decision-Making Process
 - 3.0 Location Policies
 - 4.0 Use Policies
 - 5.0 Resources Policies
- *****

1.0 General

1.1 Purpose

This chapter presents the substantive policies of the Department of Environmental Protection regarding the use and development of coastal resources, to be used by the Division of Marine Services in the Department primarily in reviewing permit applications under the Coastal Area Facility Review Act (CAFRA), N.J.S.A. 13:19-1 et seq., Wetlands Act, N.J.S.A. 13:9A-1 et seq., and Waterfront Development Permit Program, N.J.S.A. 12:5-3. The rules also provide a basis for recommendations by the Department to the Natural Resource Council on applications for riparian grants, leases, or licenses. In 1977, the Commissioner of DEP submitted to the Governor and Legislature the Coastal Management Strategy for New Jersey-CAFRA Area (September 1977), prepared by the Department as required by CAFRA, N.J.S.A. 13:19-16, and submitted for public scrutiny in late 1977. The Department revised the Coastal Management Strategy based on extensive public comments and in May 1978 submitted the revised Strategy for public review as the New Jersey Coastal Management Program - Bay and Ocean Shore Segment. In August 1978 the Governor submitted the revised New Jersey Coastal Management Program - Bay and Ocean Shore Segment for federal approval. By adopting these policies as administrative rules, according to the Administrative Procedures Act, the Department aims to increase the predictability of the Department's coastal decision-making by limiting administrative discretion, as well as to ensure the enforceability of the coastal resource and development

policies of the coastal management program of the State of New Jersey prepared under the federal Coastal Zone Management Act. Further, the Department interprets the "public health, safety, and welfare" clause in CAFRA (N.J.S.A. 13:19-10f) and the Wetlands Act (N.J.S.A. 13:9A-4d) to include a full consideration of the national interests in the wise use of coastal resources.

1.2 Authority

These rules are adopted under the general powers of the Department, N.J.S.A. 13:1D-9, as well as the Department's specific rule-making and coastal management powers under the Coastal Area Facility Review Act, N.J.S.A. 13:19-17, the Wetlands Act, N.J.S.A. 13:9A-1 et seq., and the riparian statutes, N.J.S.A. 12:5-1 et seq. These rules are consistent with the purpose and intent of the 90 Day Construction Permit Law and regulations, P.L. 1975, c. 232, and N.J.A.C. 7:1C-1 et seq. These rules complement the adopted rules that implement the Wetlands Act, N.J.A.C. 7:7A-1.0 et seq., and the rules that define the permit application procedures under CAFRA, N.J.A.C. 7:7D-2.0 et seq. The Coastal Resource and Development Policies are derived from the legislative intent of the CAFRA, Wetlands, and riparian statutes, and, in the case of the Coastal Area Facility Review Act, the rules define the standards for approval, conditional approval, or denial of permit applications more precisely than the findings required by N.J.S.A. 13:19-10 and 11.

1.3 Jurisdiction

1.3.1 General

These rules shall apply to five categories, as defined in Section 1.3.2-1.3.7, of actions or decisions by the Department on uses of coastal resources within or significantly affecting the Bay and Ocean Shore Region of the coastal zone: (a) coastal permits, (b) consistency determinations, (c) financial assistance, (d) DEP management actions affecting the coastal zone, and (e) DEP planning actions affecting the coastal zone.

1.3.2 Geographic Scope of Bay and Ocean Shore Region

These rules shall apply geographically to the Bay and Ocean Shore Region which is defined as the Coastal Area (CAFRA) defined by N.J.S.A. 13:19-4 and Regulated Wetlands listed at N.J.A.C. 7A-1.13 that are landward of the inland CAFRA boundary along a tidal watercourse that flows through the Coastal Area. The Region is a segment of New Jersey's coastal zone under the federal Coastal Zone Management Act.

1.3.3 Coastal Permits

These rules shall apply to waterfront development permits (N.J.S.A. 12:5-3), Wetlands permits (N.J.S.A. 13:9A-1 et seq.) and CAFRA permits (N.J.S.A. 13:19-1 et seq.) within the Bay and Ocean Shore Region.

1.3.4 Consistency Determinations

These rules shall apply to decisions on the consistency or compatibility of proposed actions by federal, state, and local agencies with the Coastal Resources and Development Policies, including but not limited to determinations of federal consistency under Section 307 of the federal Coastal Zone Management Act, determinations of consistency or compatibility under the Coastal Energy Impact Program under Section 308 of the federal Coastal Zone Management Act, comments on Draft and Final Environmental Impact Statements prepared under the National Environmental Policy Act, and comments on other public and private plans, programs, projects and policies.

1.3.5 Financial Assistance Decisions

These rules shall apply to state aid financial assistance decisions by DEP under the Shore Protection Program and Green Acres Program within the Bay and Ocean Shore Region, to the extent permissible under existing statutes and regulations.

1.3.6 DEP Management Actions

These rules shall apply, to the extent statutorily permissible, to management actions in or affecting the coastal zone by various divisions of the Department, in addition to coastal permits, including regulatory actions by the Division of Water Resources, the Division of Environmental Quality, and the Solid Waste Administration.

1.3.7 DEP Planning Actions

These rules shall provide the basic policy direction for DEP's future planning actions in the Bay and Ocean Shore Region as the lead state coastal management agency under Section 306 of the federal Coastal Zone Management Act.

1.4 Severability

If any provision of these rules or the application of these rules to any person or circumstances is held invalid, the remainder of the rules and the application of such provision to persons or circumstances other than those to which it is held invalid, shall not be affected thereby.

1.5 Review, Revision, and Expiration

The Department shall periodically review these rules, consider the various national, state, and local interests in coastal resources and developments seeking coastal locations, and propose and adopt appropriate revisions to these rules. The Department expects to propose revisions to the rules in 1979 in the course of completing the management program for the State's coastal zone and integrating the revision with the present rules for the Bay and Ocean Shore Region. Under the requirements of the federal Coastal Zone Management Act, the Department expects to conduct an annual review of the rules and expects to revise, amend or readopt the rules before the five year deadline under Executive Order No. 66 for periodic review of administrative rules.

2.0 Coastal Decision-Making Process

2.1 General

Decisions on uses of coastal resources shall be made using the three step process comprising the Location Policies (Section 3.0), the Use Policies (Section 4.0), and the Resources Policies (Section 5.0) of these rules. Depending upon the proposed use, project design, location, and surrounding region, different specific policies in each of the three steps may be applicable in the coastal decision-making process. The Coastal Resource and Development Policies address a wide range of land and water types (locations), present and potential land and water uses, and natural, cultural, social and economic resources in the coastal zone. DEP does not, however, expect each proposed use of coastal resources to address all Location Policies, Use Policies, and Resource Policies. Rather, the applicable policies are expected to vary from proposal to proposal.

2.2 Principles

The Coastal Resource and Development Policies represent the consideration of various conflicting, competing, and contradictory local, state, and national interests in diverse coastal resources and in diverse uses of coastal locations. Numerous balances have been struck among these interests in defining these policies, which reduce but do not presume to eliminate all conflicts among interests. One reason for this intentional balancing and conflict reducing approach is that coastal management involves explicit consideration of a broad range of concerns, in contrast to other resource management programs which have a more limited scope of concern. Decision-making on individual proposed actions using the Coastal Resources and Development Policies must therefore consider all three steps in the process, and weigh, evaluate, and interpret inevitably complex interests, using the framework established by the policies. In this process, interpretations of terms, such as "prudent", "feasible", "minimal", "practicable", and "maximum extent", as used in a specific policy or combinations of the policies, may vary, depending upon the context of the proposed use, location, and design. Finally, these principles should not be understood as authorizing arbitrary decision-making or unrestrained administrative discretion. Rather, the limited flexibility intentionally built into the Coastal Resource and Development Policies provides a mechanism for incorporating professional judgment by DEP officials, as well as recommendations and comments by applicants, public agencies, special interest groups, corporations, and citizens into the coastal decision-making process.

2.3 Definitions

The Coastal Resource and Development Policies are stated in terms of actions that are encouraged, required, acceptable, conditionally acceptable, discouraged, or prohibited. Some policies include specific conditions that must be met in order for an action to be deemed acceptable. Within the context of the Coastal Resource and Development Policies and the principles defined above in Section 2.2, the following words have the following meanings.

- (a) "action", "activity", "development", "project", "proposal", or "use" are used interchangeably to describe the proposed use of coastal resources that is under scrutiny using the Coastal Resource and Development Policies.
- (b) "site", "location", "area", or "surrounding region" means the geographic scope of the proposed use of coastal resources that is under scrutiny using the Coastal Resource and Development Policies, including both the primary, or direct site of a proposed use as well as the appropriate surrounding area or region that may be affected by or affects the proposed use and that must be evaluated as part of the coastal decision-making process, as well as alternative sites.
- (c) "prohibited" means that a proposed use of coastal resources is unacceptable and will be rejected or denied.
- (d) "discouraged" means that a proposed use of coastal resources is likely to be rejected or denied as DEP has determined that such uses of coastal resources should be deterred and developers should be dissuaded from proposing such uses. A coastal policy discouraging a use may specify mitigating conditions that may be met in order for a use to be deemed acceptable, but a presumption exists that the proposed use is unacceptable.
- (e) "conditionally acceptable" means that proposed use of coastal resources is likely to be acceptable provided that conditions specified in the policy are satisfied.
- (f) "acceptable" means that a proposed use of coastal resources is likely to be approved.
- (g) "encouraged" means that a proposed use of coastal resources is acceptable and further is a use, by its purpose, location, design, or effect, that DEP has determined should be fostered and supported in the coastal zone, through favorable consideration of other aspects of the location, design, or effect of the use in terms of the weighing process of the Coastal Resource and Development Policies.

2.4 Pre-Application Phase

At an optional pre-application conference with a prospective applicant, DEP shall employ the Coastal Resources and Development Policies as a basis for a candid, informal and non-binding evaluation of the merits of a proposed use, location and design.

2.5 Application or Project Review Phase

DEP shall employ the Coastal Resource and Development Policies as the standards for issuing actual decisions, making determinations, and carrying out management and planning actions that affect the coastal zone. Decisions may be issued with conditions or pre-conditions as reasonably necessary to carry out the spirit and intent of the Coastal Resource and Development Policies.

2.6 Information Requirements

Applicants for coastal permits shall comply with the adopted procedural rules and regulations that define the information to be submitted as part of applications for Waterfront Development, Wetlands, and CAFRA Permits. Applicants shall submit information to DEP indicating and documenting how the proposed use complies with the applicable Coastal Resource and Development Policies. This information shall be submitted at least in a discrete section of the application, or its accompanying environmental impact statement (EIS) if applicable, that is identified by the heading "Compliance with Coastal Resource and Development Policies". At the pre-application phase, mapped information for a site and its surrounding region shall be submitted at least at a scale of 1:24,000 (1 inch = 2,000 feet). At the application phase, mapped information shall be submitted at least at a scale of 1:24,000 and at larger scale(s), such as 1:2,400 (1 inch = 200 feet), appropriate for the size and complexity of the site and its surrounding region. Information describing the site and surrounding region, including alternatives, in terms of the Coastal Resource and Development Policies, shall be mapped to the maximum extent practicable. Approximate data sources referred to in the Coastal Resource and Development Policies, such as soil surveys, may be supplemented by site-specific data presented by an applicant in the environmental impact statement.

3.0 LOCATION POLICIES

- 3.1 General
- 3.2 Special Areas
- 3.3 Water Areas
- 3.4 Water's Edge Areas
- 3.5 Land Areas
- 3.6 Policy on Location of Linear Development
- 3.7 General Location Policy

3.1 General

3.1.1 Purpose

The coastal land and water areas of New Jersey are diverse. The same development placed in different locations will have different impacts on the coastal ecosystem and built environment as well as different social and economic implications. Different policies are therefore required for different locations. This section defines the Location Policies of the Coastal Program. This presentation of the policies is lengthy and detailed because the coast is large, varied, and complex. The method of applying the policies is, however, relatively simple.

3.1.2 Classification of Land and Water Types

The Location Policies classify all land and water features of the coastal zone into at least one category and assign a policy on the use of each type of location in each category. The Location Policies contain four broad categories: (a) Special Areas, (b) Water Areas, (c) Water's Edge Areas, and (d) Land Areas. Special Areas are Water, Water's Edge, or Land Areas that merit more focused attention as they constitute a highly valued natural resource, serve important purposes of human use, or form a significant natural hazard. The policies in the Special Areas supplement the more general Location Policies, and take precedence in case of policy conflict.

3.1.3 Mapping and Acceptability Determination

The Location Policies provide a logical series of six steps for determining the acceptability for use of a coastal location. At each step the locations shall be mapped, to the maximum extent practicable, by an applicant, at least at a scale of 1:24,000 (1 inch = 2,000 feet) at the pre-application phase.

Step 1 - Identify and map site and surrounding region (the same step should be carried out for the evaluation of alternative sites)

Step 2 - Identify and Map Special Areas

Step 3 - Identify and Map Water Areas

Step 4 - Identify and Map Water's Edge Areas

Step 5 - Identify and Map Land Areas

Step 6 - Determine Location Acceptability

Mapping at each step serves to identify geographically the extent of a policy's applicability to a specific site and surrounding region. The acceptability of a location is then determined by synthesizing and evaluating the applicable policies, before evaluating the proposed use in terms of the Use Policies (Step 7) and Resource Policies (Step 8). The final DEP decision is Step 9.

3.2 Special Areas

3.2.1 General

Certain Specific Water, Water's Edge and Land Areas merit focused attention and special management policies. This section defines a broad range of Special Areas and indicates the applicable Location Policies.

3.2.2 Shellfish Beds

3.2.2.1 Definition

Shellfish Beds are defined as estuarine bay or river bottoms (tidelands) presently supporting commercial or recreational quantities of hard clams, soft clams, oyster or bay scallops. This category includes: open, seasonally open, and specially restricted water quality classes as shown in NJDEP Condemned Area Charts 1 through 10, prepared by and available from DEP. Source areas for transplanting (relays) programs and depuration processing are included, as well as natural or artificial oyster seed (spat) setting beds. Maps of shellfish beds can be found in H. Haskin (1963) "Distribution of Shellfish Resources in Relation to New Jersey Intracoastal Waterway". Shellfish beds presently closed due to water pollution are considered within this definition once the beds are reopened to shellfishing. Natural blue mussel beds on open bay and inlet bottoms are also included in the definition of Shellfish Beds.

3.2.2.2 Policy

Coastal development which would directly discharge untreated domestic sewage, or industrial wastes, toxic or carcinogenic agents or significantly alter salinity regime, or natural water flow patterns

during the construction or operation of development is prohibited. Water dependent development which requires dredging adjacent to shellfish beds is discouraged unless the activity is managed so as not to cause significant mortality of the shellfish resulting from increase in turbidity and sedimentation, resuspension of toxic chemicals, or to otherwise interfere with the natural functioning of the shellfish beds. Dredging within shellfish beds is prohibited. Maintenance dredging of existing navigation channels is conditionally acceptable in these areas provided that oyster and clam transplant and relay programs, and/or depuration facilities are used.

3.2.2.3 Rationale

Estuarine shellfish are harvested by both commercial and recreational fishermen, with the sport group concentrating on hard clams. Oysters, bay scallops and soft clams are predominantly commercial species. Commercial dockside landing values in New Jersey for 1976 were \$3.17 million for estuarine mollusks, with an estimated retail industry value of \$7.94 million. The commercial harvest is estimated to support employment of 1,500 persons in fishing, distribution, processing, and retail. Sport clammers numbered 17,000 in 1976. In addition to direct human consumption, shellfish play an important role in the overall ecology of the estuary. Young clams are important forage foods for a variety of finfish such as winter flounder, crabs and migratory waterfowl especially the diving species.

3.2.3 Surf Clam Areas

3.2.3.1 Definition

Waters within the State of New Jersey three nautical mile territorial sea which can be demonstrated to support significant commercially exploitable quantities of surf clams, or beds important for productivity replacement of fishery stocks. This includes Sea Clam Research Sanctuaries established by the N.J. Bureau of Shellfisheries, under the authority of N.J.S.A. 50:1-5 and adopted as N.J.A.C. 7:26-7.6, June, 1974. Waters open for harvesting or condemned for harvesting are delineated on NJDEP Condemned Area Charts 1 through 10.

3.2.3.2 Policy

Development which would result in condemnation of surf clam stocks is prohibited. Development that would lead to closing productive surf clam areas to commercial surf clamming or result in significant mortality of concentrations of surf clams is acceptable only at less productive surf clam areas. Development within Surf Clam Areas is conditionally acceptable only if the development is of national interest and no prudent and feasible alternative sites exist.

3.2.3.3 Rationale

The surf clam fishery is New Jersey's single most important fishery with dock-side landing values (wholesale) of \$10.8 million during 1976 and estimated retail value of \$27 million. The industry annually generates monies in excess of the retail value, supports employment of over 300 full and part time people in fishing and 1,000 - 1,500 in canning, processing, distribution and industry services. Significant areas of productive water are presently closed due to water pollution. In addition, the massive marine fish kill during the summer of 1976 was estimated to have resulted in the loss of \$65 million in sea clam stocks over a seven year period. Surf clam harvesting within New Jersey's territorial sea is regulated by NJDEP. The Mid-Atlantic Regional Fisheries Management Council regulates sea clamming within the Fishery Conservation Zone (200 mile limit). Harvesting is required to be compatible with these agencies, as appropriate. Harvest quotas and other management measures have been adopted for sea clamming (surf clams and ocean quahogs) within the Fishery Conservation Zone.

3.2.4 Prime Fishing Areas

3.2.4.1 Definition

Prime Fishing Areas include tidal water areas and water's edge areas which have a demonstrable history of supporting a significant local quantity of recreational fishing activity. The area includes all coastal jetties and groins and public fishing piers or docks. Prime Fishing Areas also include all red line delineated features within the State of New Jersey's three mile territorial sea illustrated in: B.L. Freeman and L.A. Walford (1974) Angler's Guide to the United States Atlantic Coast Fish, Fishing Grounds and Fishing Facilities, Section III and IV.

3.2.4.2 Policy

Permissible uses of Prime Fishing Areas include recreational and commercial finfishing and shellfishing, as presently regulated by NJDEP Division of Fish, Game, and Shellfisheries, scuba diving and other water related recreational activities.

Prohibited uses include sand or gravel submarine mining which would alter existing bathymetry to a significant degree so as to reduce the high fishery productivity of these areas. Disposal of domestic or industrial wastes must meet applicable State and federal effluent limitations and water quality standards. Development which would preclude existing public access to the shoreline is prohibited.

3.2.4.3 Rationale

Natural bathymetric features, such as the Shrewsbury Rocks and important sand ridges, and artificial structures act as congregation areas for many species of finfish, shellfish, and a diversity of invertebrate species which are essential to marine ecosystem functioning. These areas are heavily utilized by recreational and commercial fishermen. Over 2.7 million people annually participate in marine sport fishing and shellfishing in New Jersey. This represents the highest number of participants in any state, from Maine to Maryland. Of that total, 1.6 million reside in New Jersey, with the remaining number coming mostly from Pennsylvania and New York (792,000 and 300,000 respectively.) The Mid-Atlantic Regional Fisheries Management Council manages fishing activities seaward of the State's coastal zone.

3.2.5 Finfish Migratory Pathways

3.2.5.1 Definition

Waterways (rivers, streams, creeks, bays and inlets) which can be demonstrated to serve as passageways for anadromous fish to or from seasonal spawning areas, including juvenile anadromous fish which migrate in autumn and those listed by H. E. Zich (1977) "New Jersey Anadromous Fish Inventory" NJDEP Miscellaneous Report No. 41, and including those portions of the Hudson and Delaware Rivers within the coastal zone boundary are defined as Finfish Migratory Pathways. Species of concern include: alewife (river herring) (Alosa pseudoharengus), blueback herring (Alosa aestivalis), American shad (Alosa sapidissima), and striped bass (Morone saxatilis).

3.2.5.2 Policies

Development, such as dams, dikes and spillways or chemical water quality barriers, that block movement of anadromous species is discouraged, unless acceptable mitigation measures, such as fish ladders, erosion control, and oxygenation are used. Mitigating measures are required for any development which would result in: lowering dissolved oxygen levels, releasing toxic chemicals, raising ambient water temperature, impinging or suffocating species, causing siltation, or raising turbidity levels during spring migration periods. Water's edge development which incorporates migration access structures, such as functioning fish ladders, will be encouraged, provided that the NJDEP, Division of Fish, Game, and Shellfisheries approves the design of the access structure.

3.2.5.3 Rationale

Striped bass are one of New Jersey's most prized sport fish and are actively sought wherever they occur in New Jersey. This species spawns in the Delaware, Hudson and Maurice Rivers. American Shad, once much more numerous and formerly an important commercial species, continue to make an annual spawning run in the Delaware River, where there is an active sport fishery. A much reduced commercial fishery exists in Delaware Bay. Herrings are important forage species and spawn annually in many of New Jersey's tidal tributaries. Herrings are fished during spring runs, for direct human consumption and for use as bait.

3.2.6 Submerged Vegetation

3.2.6.1 Definition

This special area includes estuarine water areas supporting rooted vascular seagrasses such as widgeon grass (Ruppia maritima) and eelgrass (Zostera marina). Eelgrass beds are limited to shallow portions of Sandy Hook Bay, Shrewsbury River, lower Barnegat Bay and Little Egg Harbor. Widgeon grass is for the most part limited to shallow areas of upper Barnegat Bay. Generalized maps of the distribution of the above species for Little Egg Harbor, and a method for delineation, are available from DEP in the DEP-OCZM sponsored study, in R.E. Good. et al. Analysis and Delineation of the Submerged Vegetation: A Case History of Little Egg Harbor (1978). In areas outside of Little Egg Harbor, a developer will be required to survey this resource until DEP completes additional surveys.

3.2.6.2 Policy

Destruction of submerged vegetation beds is prohibited. Mitigation measures are required for all upland developments which would result in erosion or increased turbidity that would adversely affect this special area. Trenching for energy pipelines and submarine cables of national significance will be conditionally acceptable, provided there is no prudent or feasible alternative site, and if the site is restored to original bathymetry and replanted with pre-development vegetation species, if these species have not colonized the site after three years.

3.2.6.3 Rationale

New Jersey's estuarine waters are relatively shallow, rich in nutrients and highly productive. The submerged vegetation of these shallow waters serve important functions, as suspended sediment traps, important winter forage for migratory waterfowl, nursery areas for juvenile finfish, bay scallops and blue-claw crabs, and by nourishing fishery resources through primary biological productivity (synthesis of basic organic material) through detrital food webs in a similar manner to salt marsh emergent Spartina cord grasses. In addition, seagrasses absorb wave energy and help stabilize silty bay bottoms. The value of seagrasses was dramatically illustrated during the 1930's when a disease epidemic virtually eliminated eelgrass from the eastern U.S. Atlantic ocean coastline. The number of finfish, shellfish, and waterfowl drastically decreased, threatening their survival. The oyster industry of the Atlantic coast was ruined. Bays became choked with silt and sewage, as new mud flats were formed.

3.2.7 Navigation Channels

3.2.7.1 Definition

Navigation channels include water areas in tidal rivers and bays presently maintained and marked by U.S. Coast Guard with buoys or stakes, as shown on NOAA/National Ocean Survey Charts: 12314, 12312, 12311, 12304, 12318, 12323, 12337, and 12343. Navigation channels also include channels marked with buoys, dolphins, and stakes, and maintained by the State of New Jersey.

3.2.7.2 Policy

Maintenance dredging of existing navigation channels is encouraged. Development which would cause terrestrial soil and shoreline erosion and siltation in navigation channels shall utilize appropriate mitigation measures. Development which would result in loss of navigability is prohibited.

3.2.7.3 Rationale

Navigation channels are essential for commercial and recreational surface water transportation, especially in New Jersey's back bays where water depths are very shallow. Channels play an important ecological role in providing estuarine circulation and flushing routes, and migration pathways and wintering and feeding habitat for a wide diversity of finfish, shellfish, and waterfowl.

3.2.8 Shipwrecks and Artificial Reefs

3.2.8.1 Definition

This Special Area includes all permanently submerged remains of vessels lying within the ocean waters of the State of New Jersey three mile territorial sea, but outside of Navigation Channels, whether sunk intentionally or unintentionally. Known sites include those shown either on National Ocean Survey (N.O.S.) Charts listed in the definition above of the Navigation Channel Special Area, or listed in: W. Krotee and R. Krotee Shipwrecks Off the New Jersey Coast (1966). Also included in this category are artificial fishing reefs which serve the same natural function as a habitat for living marine resources.

3.2.8.2 Policy

Acceptable uses include recreational and commercial finfishing and shellfishing, scuba diving, research and expansion of artificial reefs by the deposition of additional weighed non-toxic material, provided it can be demonstrated that additional material will not wash ashore, or interfere with either navigation as regulated by U.S. Coast Guard or commercial fishing operations.

Prohibited uses include commercial salvage of wrecks, submarine sand or gravel mining which would destroy ecological or physical stability, and sewage or industrial waste disposal.

3.2.8.3 Rationale

Shipwrecks serve as critical habitat for benthic finfish and lobsters, and other invertebrates which prefer shelter in hard substrates otherwise uncommon in New Jersey's marine waters. These areas function as congregation areas for migratory species and support extensive recreational fishing by private boats, commercial party boats, and commercial lobstering. Shipwrecks are also fragile historic and cultural resources. Scuba diving club members from New Jersey and other states visit these resources.

3.2.9 Marine Sanctuary

3.2.9.1 Definition

A marine sanctuary is a specific geographic area located within ocean waters, from the highest extent of tidal action seaward to the outer edge of the Continental Shelf, which has been designated by the Secretary of Commerce after approval by the President of the United States. Any sanctuary within New Jersey's coastal zone would not become effective if within 60 days of designation the Governor disapproved. Under Title III of the Marine Protection, Research and Sanctuaries Act of 1972 (P.L. 92-532), a marine sanctuary can be established for the purpose of preserving or restoring marine areas for various values. To date, there are no designated marine sanctuaries within New Jersey. The Office of Ocean Management within NOAA is presently reviewing all recommendations, including those within the Mid-Atlantic states. DEP-OCZM submitted six recommendations to NOAA in 1977, including the Hudson Canyon, Shrewsbury Rocks, Great Bay estuary, shipwrecks, inlets, and offshore sand ridges. Designation of one or more of these areas as marine sanctuaries in New Jersey's nearshore and offshore areas requires joint actions by the Governor of New Jersey and the U.S. Secretary of Commerce, and could take place during 1979.

3.2.9.2 Policy

Management principles in the selected areas will serve to preserve and protect the areas, as well as indicate what actions are not permissible in the area. Non-permissible uses will be dependent on the five basic purposes for designation, which include: habitat areas, species areas, research areas, recreational and esthetic areas, and unique or exceptional areas. After designation, activities not compatible with the basic purposes will be prohibited

or restricted, but in general all other uses are allowed. Final policy in marine sanctuaries must be approved jointly by the Governor of New Jersey and the U.S. Secretary of Commerce.

3.2.9.3 Rationale

Certain portions of the Atlantic Ocean and adjacent estuaries are of special national and regional value which could be adversely impacted by development likely to take place in the future, especially activities related to offshore oil and gas development. It is in the long-term interest of the people of the Nation to identify, protect, and manage these special areas.

3.2.10 Beaches

3.2.10.1 Definition

Beaches are gently sloping areas of unconsolidated material, typically sand, that extend landward from the water to the area where a definite change takes place either in material or physiographic form, or to the line of vegetation. The upland limit of beaches is typically defined by the vegetation line or the first cultural feature, such as a road, seawall, or boardwalk. Beaches are divided into the "wet beach", the area at and below the mean high water line, and the "dry beach", the area above the mean high water line. The wet beach area is impressed with the Public Trust Doctrine.

3.2.10.2 Policy

- (a) Unrestricted public access to beaches is encouraged. Coastal development that unreasonably restricts public access to beaches is prohibited.
- (b) New, expanded, or rebuilt development, with paving and/or structures, is prohibited on beaches, unless the proposed development is (i) publicly funded and (ii) has no prudent or feasible alternative on a non-beach location.

3.2.10.3 Rationale

Undeveloped beaches are vital to the New Jersey resort economy. Unrestricted access for recreational purposes is desirable so that the beaches can be enjoyed by all residents and visitors of the state. Public access will be required for any beaches obtaining state funds for shore protection purposes. Beaches are subject to coastal storms and erosion

from offshore currents. Public health and safety considerations require that structures be excluded from beaches to prevent or minimize loss of life or property from storms and floods, except for some shore protection structures and linear facilities, such as pipelines, when non-beach locations are not prudent or feasible. Wet sand beaches have been designated a Geographic Area of Particular Concern (GAPC) under the federal Coastal Zone Management Act.

3.2.11 Coastal Wetlands

3.2.11.1 Definition

Coastal Wetlands are low-lying marsh, swamp, meadow and flat land areas subject to tidal action as delineated by DEP on official maps at a scale of 1:2,400 (1 inch = 200 feet) listed at N.J.A.C. 7:7A-1.13. Coastal Wetlands extend beyond the Bay and Ocean Shore Region along the Delaware River and its tributaries and along the Raritan Bay, but do not extend north of the Raritan Bay.

3.2.11.2 Policy

- (a) In general, development of all kinds is discouraged in wetlands, unless DEP can find that the proposed development meets the following four standards (see N.J.A.C. 7:7A-1.5 and 1.7):
 - (i) Requires water access or is water oriented as a central purpose of the basic function of the activity (this policy applies only to development proposed on or adjacent to waterways),
 - (ii) Has no prudent or feasible alternative on a non-wetland site,
 - (iii) Will result in minimum feasible alteration or impairment of natural tidal circulation, and
 - (iv) Will result in minimum feasible alteration or impairment of natural contour or the natural vegetation of the wetlands.
- (b) In particular, dumping solid or liquid wastes and applying or storing certain pesticides on wetlands are prohibited (see N.J.A.C. 7:7A-1.2).
- (c) Under State law, the activities of the State Mosquito Control Commission and county mosquito control commissions are exempted from the coastal wetlands policy (a) above.

3.2.11.3 Rationale

The environmental values, and fragility of coastal wetlands have been officially recognized in New Jersey since the passage of the Wetlands Act of 1970 (N.J.S.A. 13:9A-1 et seq.) Coastal wetlands are undoubtedly the most environmentally valuable land areas within the coastal zone.

Coastal wetlands contribute to the physical stability of the coastal zone by serving as: (a) a transitional area between the forces of the open sea and upland areas by absorption and dissipation of wind driven storm waves and storm surges, (b) flood water storage areas, thus reducing inland damage, and (c) sediment and pollution traps. Also, wetlands perform naturally the wastewater treatment process of removing phosphorous and nitrogenous water pollutants, unless the wetlands are stressed.

The biological productivity of New Jersey's coastal wetlands is enormous and critical to the function of estuarine and marine ecosystems. The emergent cord grasses and associated algae mats convert inorganic nutrients into organic vegetative material through the process of photosynthesis which is the critical basis for estuarine and marine food webs. The primary biological productivity of New Jersey's coastal wetlands is greater than that of terrestrial corn and wheat fields on a per acre basis. However, this value was not widely known and was formerly overlooked. The principal direct dietary beneficiaries of organic wetland detritus are bacteria and protozoan, which are in turn fed upon by large invertebrates. Important finfish, shellfish, and waterfowl and other resources feed upon these invertebrates. New Jersey's Coastal Wetlands are prime wintering habitat annually for hundreds of thousands of migratory waterfowl. Approximately two-thirds of marine finfish and shellfish are known to be estuarine and, therefore, wetlands-dependent.

DEP encourages both the restoration of degraded wetlands as a mitigation measure for certain types of approved wetlands development and the creation of new wetlands in non-sensitive areas. The Division of Marine Services has previously required restoration of temporarily disturbed wetlands and will continue to do so in a case-by-case basis. The construction of new vegetated wetlands is a highly technical activity requiring a great degree of precision and understanding of the estuarine system.

3.2.12 High Risk Beach Erosion Area

3.2.12.1 Definition

High Risk Beach Erosion Areas are ocean shorelines that are eroding and/or have a history of erosion, causing them to be highly susceptible for further erosion and damage from storms. High Risk Beach Erosion Areas may be identified by any one of the following characteristics:

- (a) Lack of beaches
- (b) Lack of beaches at high tide
- (c) Narrow beaches
- (d) High beach mobility
- (e) Foreshore extended under a boardwalk
- (f) Low dunes or no dunes
- (g) Escarped foredune
- (h) Gaps in dune fields
- (i) Steep beach slopes
- (j) Cluffed bluffs adjacent to beach
- (k) Insufficient dune or bluff vegetation
- (l) Exposed, damaged or breached jetties, groins or seawalls
- (m) High long-term erosion rates
- (n) Pronounced downdrift effects of groins (jetties)

High Risk Beach Erosion Areas extend inland to the first cultural feature, established dune field, or area likely to be eroded in less than 50 years, whichever is the shortest distance, and include overwash areas where sand is carried over and through dunes during storm surges.

3.2.12.2 Policy

- (a) Development in High Risk Beach Erosion Areas is prohibited, except for shore protection measures that satisfy the Use Policies for Shore Protection (see Section 4.0) and the Special Area Policy on Dunes (See Section 3.2.13).
- (b) Development in areas adjacent to High Risk Beach Erosion Areas that would contribute to further beach erosion updrift (depending upon the direction of littoral drift) is prohibited.

3.2.12.3 Rationale

As a result of continuing rising sea levels and active storm-induced sand movement and offshore currents (littoral drift), the Atlantic coastline of New Jersey is a retreating shore. Coastal erosion

also affects the bayshores of New Jersey. The rate of retreat, or erosion, is not uniform, and varies locally depending upon the nature and magnitude of coastal processes operating within individual parts of the shoreline. Certain parts of the shoreline have a higher risk for further erosion. Development other than restoration measures should be sharply restricted in these areas in order to protect public safety and prevent loss of life and property.

In 1977, The Center for Coastal and Environmental Studies at Rutgers University completed a study commissioned by DEP-OCZM, entitled, Coastal Geomorphology of New Jersey, which analyzed the problems of shoreline erosion, classified the shoreline and identified thirteen specific examples of high risk erosion areas:

1. Cumberland County - Delaware Bay Shore (developed portions along bayshore)
2. Middle Township (developed portions of bayshore), Cape May County
3. Cape May City
4. Northern Wildwood (where Hereford Inlet fronts beach)
5. Strathmere (Putnam Avenue to end of developed island)
6. Ocean City (3rd St. to 18th St.)
7. Ocean City (E. Atlantic Blvd. to Newcastle Rd.)
8. Atlantic City (where Absecon Inlet fronts beach, Oriental Ave. to Parkside)
9. Barnegat Light (8th to 4th St.)
10. Loch Arbour to Elberon
11. Long Branch
12. Sea Bright and Monmouth Beach
13. Raritan Bay (developed portions along bayshore)

In addition, the southern half of Sea Isle City can be considered a High Risk Beach Erosion Area after the winter storms of 1978.

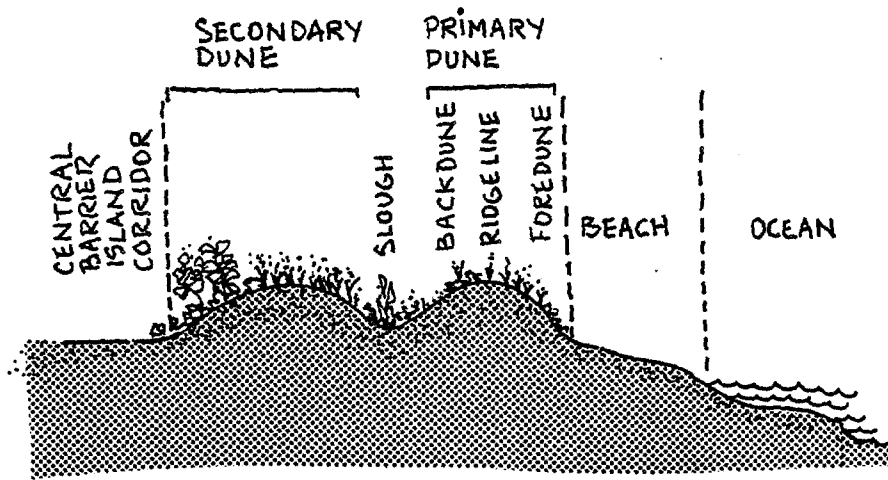
Overwash is one of several basic mechanisms by which barrier islands naturally migrate landwards over decades, in addition to the creation of inlets and migration of dunes. Overwash areas indicate a clear risk of further beach erosion.

3.2.13 Dunes

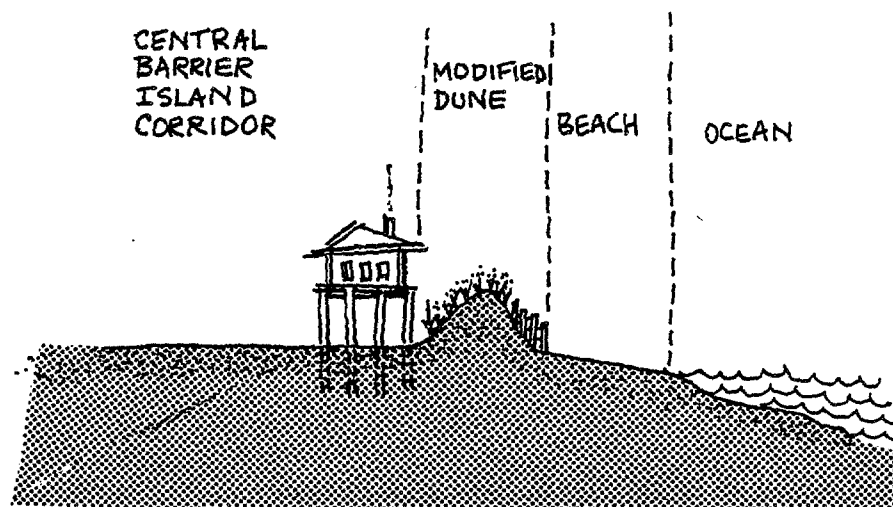
3.2.13.1 Definition

Dunes are formations of partially stabilized, vegetated, drifting sand roughly paralleling and upland from the beaches on ocean and bay shores. The

Figure 5



NATURAL DUNES



DEVELOPED DUNES

inland limit of dunes is defined topographically. Typically, the land surface rises above a beach as a foredune, flattens on a ridge line, and then falls as a back dune. This is the primary dune. Sometimes the surface rises and falls again one or more times, creating secondary or tertiary dunes. The term dune includes all areas between the inland limit of the dry, sandy beach and the foot of the most inland dune slope. Two types of dune areas exist along the New Jersey shoreline: natural dunes and developed dunes. Natural dunes modified, but not totally destroyed by man, are defined as "developed dunes" (See Figure 5).

3.2.13.2 Policy

- (a) Development on dunes is prohibited with the exception of the construction of very limited pedestrian walkways which do not unreasonably damage the structure of the dunes, such as pathways supported above the dune surface.
- (b) Development that destroys dunes must restore and revegetate the natural dune area, based on a long range plan for the area.
- (c) The stabilization of existing dunes and the creation of new dunes compatible with natural beach profiles are encouraged.
- (d) Development adjacent to High Risk Beach Erosion Areas and developed dunes is conditionally acceptable provided that the dune form and volume are adequate to protect the proposed inland development.

3.2.13.3 Rationale

Dunes serve as valuable physical storm wave protection, wildlife habitat, aesthetic and educational resources. The number and extent of dunes and barrier beach vegetation have diminished along New Jersey's Atlantic coastline, due largely to extensive and intensive development on barrier islands. Most of New Jersey's dunes are located either in publicly-owned areas such as Sandy Hook (Gateway National Recreation Area), Island Beach State Park, Little Beach in the Brigantine National Wildlife Refuge, and Higbee Beach in Cape May County (proposed for state acquisition), as well as adjacent to the developed parts of barrier islands. Additional small but significant remaining dune areas are in public ownership at Sea Girt at the State Police Academy, Ocean Crest State Park (undeveloped) at Ocean City, Strathmere Natural Area at Corson's Inlet, and Cape May Point State Park. Avalon has a 10 block stretch of primary and secondary dunes with thick, mature barrier island vegetation.

3.2.14 Central Barrier Island Corridor

3.2.14.1 Definition

The Central Barrier Island corridor is that portion of barrier islands and spits or peninsulas (narrow land areas surrounded by both bay and ocean waters and connected to the mainland) that lies upland and between the Coastal Wetlands, Beaches, Retained Water's Edge and Filled Water's Edge areas that line the ocean and bay sides of a barrier island or spit. The Central Barrier Island Corridor excludes Dunes Special Area and begins at the foot of the most inland slope of Dunes. The Central Barrier Island Corridor also excludes wash-over areas. Central Barrier Island Corridor does not apply to the headlands of northern Ocean County, Monmouth County, and the tip of Cape May County, which are part of the mainland (See Figure 6).

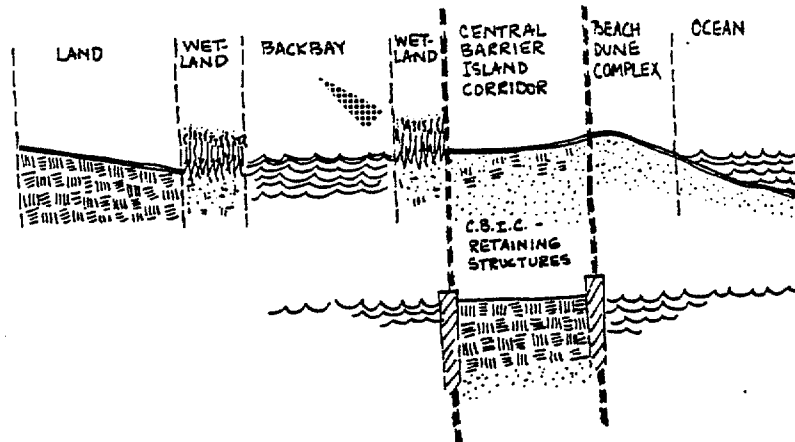
3.2.14.2 Policy

New or expanded development within the Central Barrier Island Corridor is conditionally acceptable provided that the criteria for High Development Potential are met, as defined in the policy for Land Areas (see Section 3.5.5). The acceptable density of new development shall be determined using the high-rise policy for residential structures.

3.2.14.3 Rationale

All of New Jersey's barrier islands and spits, except for Pullen Island in the Brigantine National Wildlife Refuge, are developed to varying degrees, largely as a result of incremental decisions made beginning more than one hundred years ago. Because the public facilities (roads and utilities) necessary to support urban and resort development already exist, and should be protected on New Jersey's barrier islands, and because development pressure is intense on barrier islands, the acceptability for development is to be determined by the Location Policy's criteria for residential development on Land Areas. Use of the high development potential criterion will generally accept infill projects and discourage extensions of development on barrier islands and spits. The high-rise policies will limit sharp increases in density on the presently developed islands.

The policy recognizes the diversity of New Jersey's barrier islands, from Absecon Island with the resort city and urban center of Atlantic City to Long Beach Island with largely single-family seasonal homes.



CENTRAL BARRIER ISLAND CORRIDOR - CROSS-SECTION

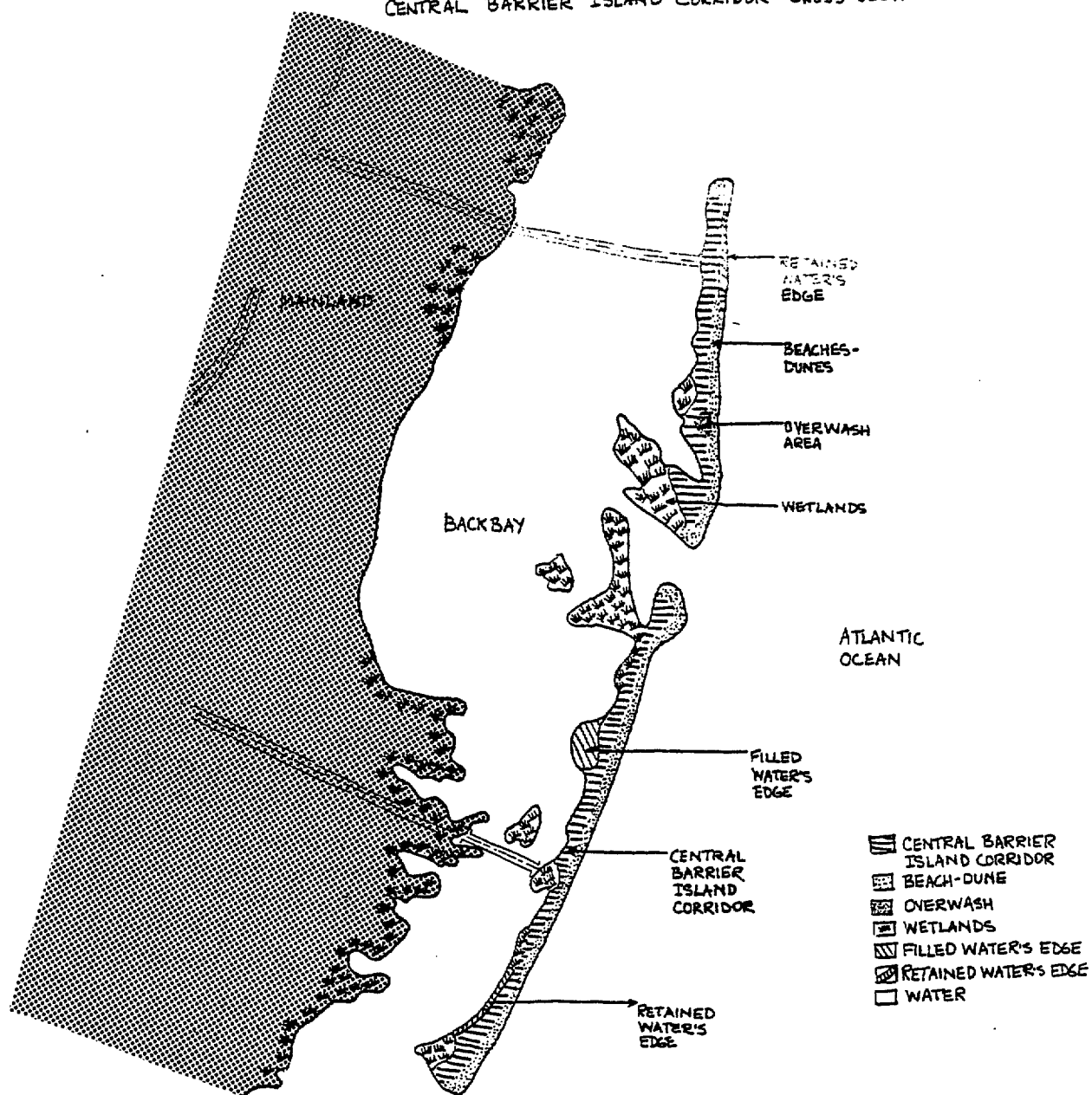


FIGURE 6. CENTRAL BARRIER ISLAND CORRIDOR

Implementation of the policy is expected to reinforce the existing character of New Jersey's developed barrier islands and not add appreciably to the public service costs and emergency evacuation (in times of hurricanes) problems of these islands.

3.2.15 Historic Resources

3.2.15.1 Definition

Historic resources include objects, structures, neighborhoods, districts, and man-made or man-modified features of the landscape, including archaeological sites, which either are on or are eligible for inclusion on the State or National Register of Historic Places. The criteria for eligibility are defined by the U.S. Department of Interior, Heritage Conservation and Recreation Service.

3.2.15.2 Policy

- (a) Development that detracts from, encroaches upon, damages, or destroys the value of historic resources is discouraged, unless it causes minimal practicable degradation of the resource.
- (b) Development that incorporates historic resources in adaptive reuse is encouraged.
- (c) Scientific recording and/or removal of the historic resources or other mitigation measures must take place, if the proposed development would irreversibly and/or adversely affect historic resources.

3.2.15.3 Rationale

The range of historic resources along the coast is broad and diverse, from the oceanfront Victorian "gingerbread" architecture, to examples of New Jersey's maritime heritage, to colonial homes, to Indian artifacts. The public interest requires the preservation of both representative and unique examples of historical and archaeological (cultural) resources of the coast, in order to provide present and future generations with a sense of the people, who lived, worked, and visited the coast in the past. DEP's Office of Historic Preservation maintains an up-to-date list of properties on the New Jersey State Register of Historic Places (N.J.S.A. 13:1B-15.128 et seq.) and the National Register of Historic Places. As the State Historic Preservation Officer, the Commissioner of DEP, and staff of DEP's

Office of Historic Preservation and Office of Environmental Review advise DEP's Division of Marine Services on the historic resources aspects of coastal decisions.

3.2.16 Specimen Trees

3.2.16.1 Definition

Specimen trees are the largest (diameter at 4.5 feet above ground) known individual trees of each species in New Jersey as listed by DEP-Bureau of Forestry (see New Jersey Outdoors, September-October 1977 for a listing of specimen trees). A specimen tree site is the area directly beneath the crown, also known as the drip line. In addition, large trees approaching the diameter of the known largest tree shall be considered Specimen Trees.

3.2.16.2 Policy

Development is prohibited that would significantly reduce the amount of light reaching the crown, alter drainage patterns within the site, adversely affect the quality of water reaching the site, cause erosion or deposition of material in or directly adjacent to the site, or otherwise injure the tree. The site of the tree extends to the outer limit of the buffer area necessary to avoid adverse impacts, or 50 feet from the tree, whichever is less.

3.2.16.3 Rationale

Many interested citizens have assisted DEP, over decades, in locating specimen trees. This process includes reporting large trees that can be considered specimens even though they may not be the largest in New Jersey of a species. Specimen trees are an irreplaceable scientific resource. Often these trees have also been associated with historical events.

3.2.17 White Cedar Stands

3.2.17.1 Definition

Low lying areas supporting Atlantic White Cedars (*Chamaecyparis thyoides*), where white cedars compose a significant percentage of stems within a given area. Generalized location maps of white cedar stands can be found in J. McCormick and L. Jones, The Pine Barrens Vegetation (1973), and forest type maps within the N.J. Bureau of Forestry.

3.2.17.2 Policy

Development that adversely affects White Cedar Stands is prohibited.

3.2.17.3 Rationale

White cedar stands, as well as other lowland swamp forests, play an important role in purifying water in coastal streams, retarding runoff, providing scenic value, and serving as a rich habitat for many rare and endangered plant and animal species, as well as game species, such as deer. White cedars also act as forest fire breaks. White cedar stands most commonly occur in flood plains and in the fringe areas of drainage ways and bogs, which are frequently underlain with saturated organic peat deposits. This material is particularly unsuited for development unless highly altered. Many of these locations are Natural Water's Edge Areas.

White cedar is New Jersey's most valuable timber species and grows in discrete stands. The wood has a long tradition of maritime and local craft uses. Unfortunately, white cedars have been eliminated from much of their previous range in New Jersey.

3.2.18 Endangered or Threatend Wildlife or Vegetation Species Habitats

3.2.18.1 Definition

Land, Water's Edge, or Water Areas known to be the habitat of any wildlife (fauna) or vegetation (flora) identified as "endangered" or "threatened" species on official federal or state lists of endangered or threatened species are considered a special area. The definition also includes a sufficient buffer area to insure continued survival of the species. DEP intentionally restricts dissemination of data showing the geographic distribution of these species habitats, in order to protect the habitats.

3.2.18.2 Policy

Development that would adversely affect the habitats of endangered or threatened species is prohibited. DEP will review proposals on a case-by-case basis.

3.2.18.3 Rationale

Endangered and threatened species are organisms which are facing possible extinction in the immediate future due to loss of suitable habitat, past over-exploitation through human activities or natural

causes. Extinction is an irreversible event and represents a loss to both future human use, education research and to the interrelationship of all living creatures with the ecosystem.

At present (1978), the official list of endangered wildlife (fauna) species in New Jersey, available from DEP, Division of Fish, Game and Shellfisheries (see N.J.A.C. 7:25-11.1), includes the following species: Shortnose sturgeon, Blue-spotted salamander, Eastern tiger salamander, Bog turtle, Bald Eagle, Peregrine Falcon, Osprey, Cooper's Hawk, and Indiana Bat, as well as various marine mammals and marine reptiles. Additional species have threatened status. At present (1978), no official state or federal list exists of endangered or threatened vegetation (flora) species, although the Smithsonian Institution did in 1975 submit a report to the U.S. Fish and Wildlife Service identifying fifteen species of New Jersey plants for consideration for adoption on federal lists (see 40 FR 27863-27864, July 1, 1975).

3.2.19 Critical Wildlife Habitats

3.2.19.1 Definition

Critical Wildlife Habitats are specific areas known to serve an essential role in maintaining wildlife (fauna), particularly in wintering, breeding, and migrating. Rookeries for colonial nesting birds such as herons, egrets, ibis, terns, gulls, and skimmers, stopovers for migratory birds, such as the Cape May Point region, and natural corridors for wildlife movement merit a special management approach through designation as a Special Area. Ecotones, or edges between two types of habitats, are a particularly valuable Critical Wildlife Habitat. Many Critical Wildlife Habitats, such as salt marsh water fowl wintering areas, and muskrat habitats, are singled out as Water or Water's Edge Areas.

3.2.19.2 Policy

Development that would adversely affect Critical Wildlife Habitats is discouraged, unless: (a) minimal feasible interference with the habitat can be demonstrated, (b) there is no prudent or feasible alternative location for the development, and (c) the proposal includes appropriate mitigation measures. DEP will review proposals on a case by case basis.

3.2.19.3 Rationale

The State of New Jersey, as custodian of a particular portion of the national wildlife heritage, has the obligation of stewardship on behalf of the people of the state and nation to perpetuate wildlife species within its borders for the use, education, research, and enjoyment by future generations.

3.2.20 Public Open Space

3.2.20.1 Definition

Public Open Space constitute land areas owned and maintained by state, federal, county and municipal agencies or non-profit private groups (such as conservation organizations and homeowner's associations) and dedicated to conservation of natural resources, public recreation, or wildlife protection or management. Public Open Space also includes State Forests, State Parks, and State Fish and Wildlife Management Areas and designated Natural Areas (N.J.S.A. 13:1B-15.12a et seq.) within DEP-owned and managed lands.

3.2.20.2 Policy

- (a) New or expanded public or private open space development is encouraged at locations compatible or supportive of adjacent and surrounding land uses.
- (b) Development that adversely affects existing public open space is discouraged.
- (c) Development within existing public open space, such as campgrounds and roads, is conditionally acceptable, provided that the development complies with the Coastal Resource and Development Policies and is consistent with the character and purpose of the public open space.

3.2.20.3 Rationale

As the rapid urbanization of New Jersey continues and leisure time increases, open space will play an increasingly important role in maintaining a desirable living environment for the residents of New Jersey. Even though the supply of open space has decreased under the growing pressure for development, the State's expanding population will require more public open space to satisfy its needs.

Not only is open space the basic resource for recreation facility development, it also performs other worthwhile functions. Open space can create public spaces in densely settled areas, shape urban growth, provide buffers for incompatible uses, retain contiguous farmland, insure the preservation of wildlife corridors, increase the economic value of adjacent land, and preserve distinct architectural, historic, and geologic sites.

The distribution of open space should not only be centered around the preservation of unique areas, but must also respond to the needs of people. Where possible, open spaces should be contiguous both visually and physically to promote a sense of continuity and to afford users continued movement through the public open spaces.

3.2.21 Steep Slopes

3.2.21.1 Definition

Steep slopes are areas with slopes greater than 10%.

3.2.21.2 Policy

- (a) Development on steep slopes greater than 15% is prohibited, unless the regrading of a very small part of a site is essential to the overall landscaping plan for the site, in which case the grading shall be done to less than a 10% slope.
- (b) Development on steep slopes between 10-15% is discouraged, unless:
 - (i) limited stabilization structures and measures, such as terracing and paving, are consistent with the natural character of the site, to the maximum extent practicable,
 - (ii) The design of the development is compatible with the slope characteristics of the site in visual, physical, and engineering terms,
 - (iii) minimal feasible site disturbance and maximum practicable revegetation take place.

3.2.21.3 Rationale

Only a few Steep Slopes Areas exist in the relatively flat Coastal Plain of New Jersey. Steep slopes occur in the Bay and Ocean Shore Region along

certain tributaries of the Delaware River, and the Raritan River, in the northeastern portion of Monmouth County known as the Highlands, which is bounded by Sandy Hook Bay and the Navesink River. Slope maps are available from NJDEP/OCZM based on U.S.G.S. Topographic Quadrangle sheets (1:24,000 scale). Isolated steep slope areas are also found near headwaters of coastal streams.

Preservation of steep slopes controls soil erosion, protects up-slope lands, minimizes pollution surface waters, and reduces flooding. When vegetation is stripped, rainfall strikes surface soils causing soil particle movement through surface water flow and gravity, which result in increased surface runoff and downstream flooding. When this silty water enters a surface water body, increased turbidity and sedimentation usually follow which can cause reduction of productivity and flood water storage capacity. Aesthetics are also affected when erosion occurs and topsoil is lost.

3.2.22 Farmland Conservation Areas

3.2.22.1 Definition

Large, contiguous areas of 20 acres or more (in single or multiple tracts) with soils of classifications in the Capability Classes I, II and III as mapped by the U.S. Department of Agriculture, Soil Conservation Service, in National Cooperative Soil Surveys, and Special Soils for Blueberries and Cranberries, which are actively farmed, suitable for farming, or forested, and located in Cape May, Cumberland or Salem Counties are defined as Farmland Conservation Areas. The Farmland Conservation Areas should not be confused with the Farmland Preservation Demonstration Project in Burlington County.

3.2.22.2 Policy

- (a) Farmland Conservation Areas shall be maintained and protected for open space or farming purposes to the maximum extent practicable.
- (b) Continued, renewed, or new farming is encouraged in Farmland Conservation Areas.
- (c) Conversion of Farmland - Conservation Areas to development is acceptable only when the predominant surrounding pattern of development is urban or suburban and continued, renewed, or new farming is likely to produce unacceptable urban-agricultural conflict.

3.2.22.3 Rationale

Farmland Conservation Areas are an irreplaceable natural resource essential to the production of food and fiber, particularly in the "Garden State." Conservation of large, contiguous areas of these lands for farming serves both private and public interests, particularly in terms of ready access to locally-grown food, jobs and open space preservation. At the same time, the policy here recognizes the desirability of minimizing conflicts between farm and urban areas.

Only the three southern counties within the Bay and Ocean Shore Region have significant Farmland Conservation Areas located in a manner generally compatible with present or future farming. In Cape May County, approximately 39.8% of the county's soils qualify as Capability Classes I and II (including areas outside of the coastal zone boundary). Some of these irreplaceable soil resources have already been converted to urban uses. Other areas which are of a sufficiently large scale to make farming feasible should be reserved for farming purposes, provided that rural-urban conflicts are minimized.

3.2.23 Bogs and Freshwater Wetlands

3.2.23.1 Definition

Bogs and freshwater wetlands are local, natural or man-made, vegetated undrained topographic depressions with the seasonal high water table at surface, fed by groundwater, usually underlain with peat and other organic material. Water in bogs is acidic, nearly free of dissolved nutrients.

3.2.23.2 Policy

Development that would adversely affect the natural functioning of the bog or ephemeral pond environment is prohibited.

3.2.23.3 Rationale

Bogs, while limited in extent in the Bay and Ocean Shore Region, are the habitat for many rare and endangered species of plants and animals. Bogs are inappropriate development sites due to poor drainage and load bearing capacity of the underlying soils. Bogs also assist in flood control.

3.2.24 Ephemeral Stream Corridor

3.2.24.1 Definition

The Ephemeral Stream Corridor is the area adjacent to an ephemeral or intermittent stream, as indicated on USGS topographic quadrangles or National Cooperative Soil Survey maps prepared by the U.S. Department of Agriculture, Soil Conservation Service, that has a depth to seasonal high water table of less than or equal to one foot.

3.2.24.2 Policy

Coastal development that would adversely affect the natural functioning of Ephemeral Stream Corridors is prohibited. In particular, paving, filling, effluent discharge, vegetation disturbance, and disturbance of drainage patterns are prohibited.

3.2.24.3 Rationale

Ephemeral Stream Corridors serve vital functions in the water cycle of the coastal ecosystem. These areas serve as groundwater discharge areas that help maintain the quality of the water regimen of streams, and directly protect the quality of coastal waters. Ephemeral Stream Corridors may only be approximately depicted using USGS or SCS maps. Site surveys may well be required.

3.2.25 Special Hazard Areas

3.2.25.1 Definition

Special Hazard Areas include areas with a known actual or potential hazard to public health, safety, and welfare, or to public or private property, such as the navigable air space around airports and potential evacuation zones around major industrial and energy facilities.

3.2.25.2 Policy

Coastal development that would increase the potential danger of Special Hazard Areas is discouraged, unless appropriate mitigating measures are adopted.

3.2.25.3 Rationale

Management of the coastal zone requires a concern for development that would directly or indirectly increase potential danger to life and property. Mitigating measures such as height limits near airports and evacuation plans for industrial facilities may adequately address the concern in this area.

3.2.26 Excluded Federal Lands

3.2.26.1 Definition

Excluded Federal Lands are those lands that are owned, leased, held in trust or whose use is otherwise by law subject solely to the discretion of the United States of America, its officers or agents, and are excluded from New Jersey's Coastal Zone as required by the federal Coastal Zone Management Act.

3.2.26.2 Policy

Federal actions on Excluded Federal Lands that significantly affect the coastal zone (spillover impacts) shall be consistent with the Coastal Resource and Development Policies, to the maximum extent practicable.

3.2.26.3 Rationale

While the federal Coastal Zone Management Act requires that federal lands be excluded from a state's coastal zone, it is important that New Jersey's Coastal Resource and Development Policies explicitly note the location of these special areas in order that the spillover impacts of actions in these areas may be properly evaluated.

3.2.27 Borrow Pits

3.2.27.1 Definition

Borrow pits are topographic depressions resulting from the extraction of unconsolidated sediments. They may be wet or dry depending on whether the extraction extends below the water table.

3.2.27.2 Policy

- (a) The conservation of wet borrow pits is encouraged for water amenity and wildlife habitats provided that:
 - (i) Unstabilized slopes at the water's edge are not more than 1:3 and are planted with adapted vegetation.
 - (ii) Slopes greater than 1:3 are stabilized with either rip-rap or bulkheads of environmentally suitable materials.

- (iii) Unstabilized slopes are maximized and stabilized slopes minimized to the maximum extent practicable.
- (b) The use of borrow pits as detention areas for runoff is acceptable provided that the applicant can demonstrate:
 - (i) That the input of nutrients to well borrow pits will not cause eutrophication to standing water.
 - (ii) That the input of other contaminants will not cause unacceptable surface or ground water degradation.
 - (iii) That the percolation rate can accommodate peak storm runoff or that an overflow is provided that satisfies the runoff policy.

If these conditions cannot be met, site grading shall be used to direct surface runoff away from borrow pits.

- (c) Extensive filling of large wet borrow pits is discouraged.
- (d) Filling of small wet borrow pits, areas of large wet borrow pits, and dry borrow pits is acceptable providing:
 - (i) The fill sediments are non-toxic and of a sediment size suitable for proposed uses. Some dredge spoil sediments could satisfy this condition.
 - (ii) That impacts on surrounding ground and surface water movement are acceptable.
- (e) Dry borrow pits may be acceptable as solid waste landfill sites providing:
 - (i) The fill is chemically inert or if the fill is chemically active that the pit is lined and the leachate collected and treated before release to ground or surface water.
 - (ii) That impacts on surrounding ground or surface water movement are acceptable.
 - (iii) The fill is compatible with surrounding land uses.

3.2.27.3 Rationale

Borrow pits are man-made land forms that offer special opportunities and constraints to development and therefore merit special policies, rather than being included in the Land Areas policy. Lakes and ponds of varying depth and area form in pits where extraction has cut through the water table. These lakes are valuable as open space and wildlife habitats. These lakes should be incorporated into recreation or residential developments. Wet pits often require special development and management practices to preserve their open space value. Surrounding slopes may be steep and liable to slump and erosion. Stabilization may be required.

Borrow pit lakes typically have little or no flow, being fed only from ground water, and are very sensitive to inputs of nutrients, heavy metals, pesticides, petrochemical wastes and other contaminants. There is little or no flushing to remove contaminants. Evaporation tends to concentrate even small inputs over a period of time. Eutrophication and biomagnification of toxicity are particular problems. If wet borrow pits are used as runoff detention areas, therefore special care is needed to maintain water quality.

Large wet borrow pits have high amenity and habitat value and should be preserved where possible. Small wet borrow pits and dry pits may, however, unreasonably obstruct optimum site plans. In these cases, filling may be acceptable providing the fill is clean and offers sufficient load bearing capacity for the proposed use. Also, the surrounding hydrologic systems must not be unacceptably disturbed. Filling these areas offers an opportunity for land disposal of some dredge spoils.

The disposal of solid waste in the coastal area is a growing problem. The type of waste varies widely, with building rubble, domestic and industrial waste and the less usable sediments from dredging operations all requiring disposal. Dry borrow pits offer disposal opportunities if the filling is compatible with surrounding uses and the chemical, biological and physical impacts of the fill and leachate can be contained and mitigated.

3.3 Water Areas

3.3.1 General Definition of Water Areas

Areas below the mean high water line, including intertidal areas, and nontidal permanent surface water features are classified as "Water Areas". Water Areas include various specific types of basins and channels.

3.3.2 General Policy on Uses of Water Areas

The location policy for coastal Water Areas varies according to the depth of the water basin, flow of the water channel, and proposed use of the water areas. For this reason, specific water basin and water channel types and specific uses of water areas are defined below. Specific coastal policies are articulated in a Water Acceptability Table for specific uses, considering both the advantages and disadvantages (sensitivity and development potential) of various types of locations, using the Coastal Location Acceptability Method (CLAM). In addition to the Water Areas policies presented here, proposed coastal development must also comply with applicable state and federal surface and ground water quality statutes and regulations.

3.3.3 General Rationale for Water Areas Policy

The sensitivity of water areas to environmental impacts depends primarily on the assimilative capacity of the specific water area. Assimilative capacity indicates the amount of adverse impact or pollutants that a water body can absorb and neutralize before it begins to display a significant reduction in biological diversity, chemical, or physical water quality. Two factors -- water volume and flushing rate (the rate that water in a channel or basin is replaced) -- are used in CLAM to determine the approximate assimilative capacity of water basins and water channels respectively. Other factors may also be important in reaching a specific decision. Water volume depends upon the surface area and depth of a water body. The Location Policy for Water Areas considers flushing rate in terms of six types of water channels and two types of bays.

3.3.4 Water Acceptability Table

The Water Acceptability Table indicates the Coastal Management Program's location policy toward the introduction of the various uses into each of the coastal water body types. This table uses the following key:

P = The use is prohibited (except in areas where the State of New Jersey has conveyed a riparian grant, in which case the use is discouraged, although a waterfront development permit is required for use of the water area).

WATER ACCEPTABILITY TABLE

Key	Ocean			Open Bay			Semi-Enclosed and Back Bay			Inland Basin	Man-Made Harbor	Large Rivers	Medium Rivers Creeks & Streams			Intermittent Streams	Guts	Inlets	Canals
P = Prohibited																			
D = Discouraged																			
C = Conditionally Acceptable																			
E = Encouraged																			
/ = Impractical																			
NOTE: Water depths are measured from mean low water																			
	18'+	0' - 18'		18'+	6' - 18'	0' - 6'	6'+	1' - 6'	1' - 0'				6'+	1' - 6'	1' - 0'				
1. Aquaculture	C	C		C	C	C	C	C	/	C	P	C	C	C	/	/	D	P	P
2. Boat Ramps	/	C		/	C	C	C	C	C	C	E	C	C	C	C	D	C	C	C
3. Retaining Structures	D	D		D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
4. Docks and Piers	D	C		D	C	C	C	C	C	D	E	E	C	C	C	/	C	E	E
5. Dredging-Maintenance	/	/		C	C	C	C	C	/	P	E	C	C	C	/	/	D	D	C
6. Dredging-New	D	P		D	D	D	D	D	D	P	D	D	D	D	D	/	D	D	C
7. Spoil Disposal	C	C		P	P	C	P	P	P	P	P	P	P	P	P	P	P	P	P
8. Dumping	P	P		P	P	P	P	P	P	P	P	P	P	P	P	P	D	P	P
9. Filling	/	D		/	P	D	P	D	D	P	P	D	D	D	P	P	D	P	P
10. Pilling	D	C		D	C	C	C	C	C	D	C	C	C	C	C	/	C	C	D
11. Mooring	P	P		D	D	C	C	C	/	P	C	C	C	C	/	/	C	D	D
12. Sand and Gravel	C	P		P	P	P	P	P	P	P	P	C	C	P	/	/	P	C	P
13. Bridges	/	/		D	D	D	D	D	D	P	P	C	C	C	C	C	C	D	C
14. Cable Routes	C	C		C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D
15. Overhead Lines	/	/		P	P	P	P	P	P	P	P	D	C	C	C	C	C	P	P
16. Pipeline Routes	C	C		C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	C
17. Dams and Impoundments	/	/		/	/	/	P	D	D	/	/	P	D	D	D	P	P	P	P
18. Pipes	C	D		C	C	D	C	C	D	C	C	C	C	D	D	P	C	D	C
19. Miscellaneous	C	C		C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

D = The use is discouraged

C = The use is conditionally acceptable, subject to the conditions identified in the next section

E = The use is encouraged

/ = The use is impractical

The rationale for the policies is provided by waterbody type in Section 3.3.6.

3.3.5 Definitions of Water Body Types

The water areas of the coastal zone have been classified into eleven water body types, as defined below. Some Special Area policies, such as Navigation Channels, also apply to Water Areas. In addition, some water body types are further classified according to the depth of the water body type, or its bathymetry (see Figure 7).

3.3.5.1 Ocean

This basin type has two depth levels (0'-18' and 18'+) and includes all areas of the Atlantic Ocean out to the limit of New Jersey's territorial sea, three nautical miles from the shoreline. The ocean extends from the marine boundary with the State of New York in Raritan Bay and Sandy Hook Bay south to the marine boundary with the State of Delaware in Delaware Bay, near Cape May Point.

3.3.5.2 Open Bay

This basin type has three depth levels (0'-6', 6'-18', and 18'+) and is defined as a large, somewhat confined estuary with a wide unrestricted inlet to the ocean and with a major river mouth discharging directly into its upper portion. Delaware Bay, Raritan Bay, Sandy Hook Bay, and Upper New York Bay are the only representatives of this water body type in New Jersey.

3.3.5.3 Semi-enclosed and Back Bay

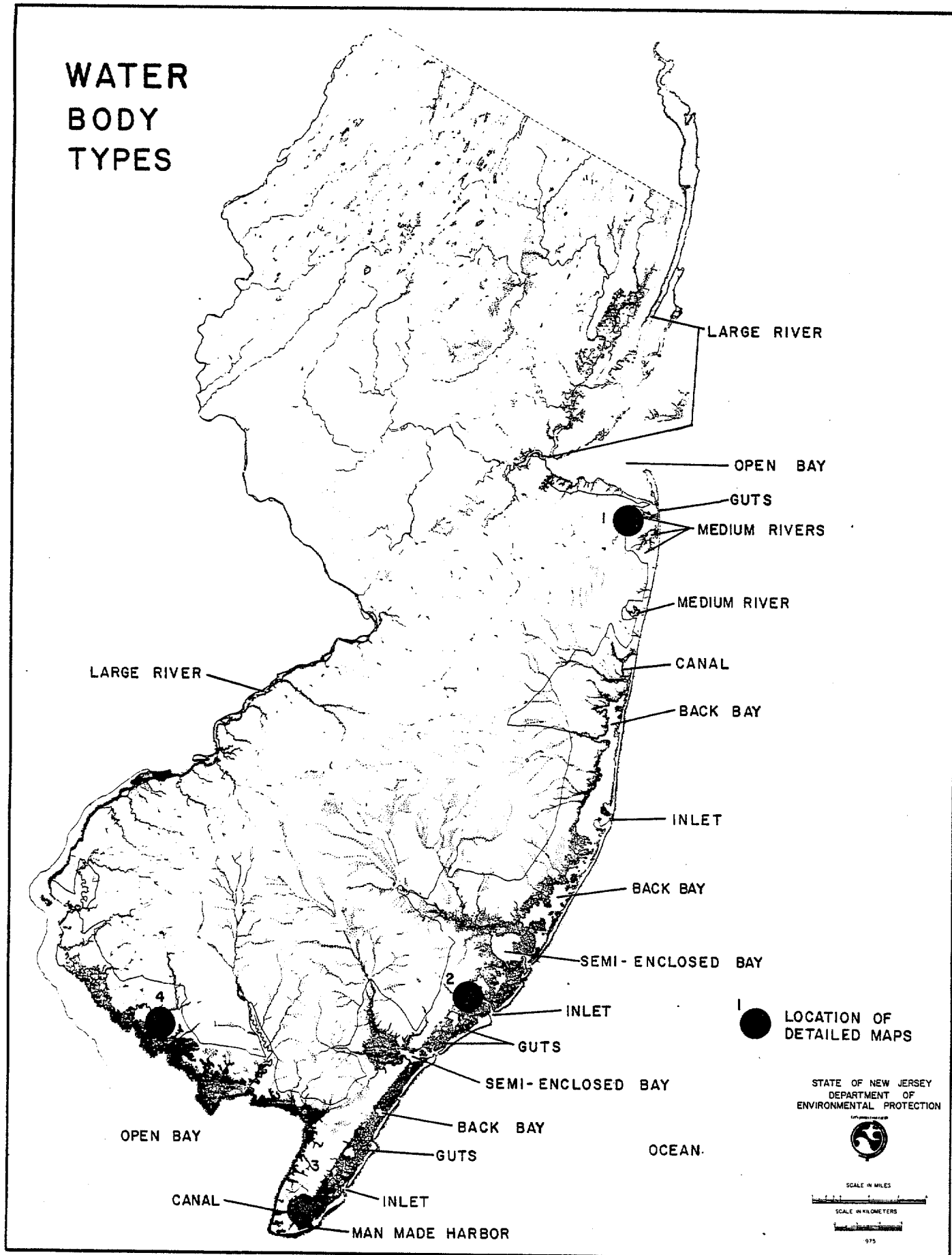
This basin type is a partially confined estuary with direct inlet connection and some inflow of freshwater. Semi-enclosed bays differ from back bays in depth, degree of restriction of inlet and level of freshwater inflow, but the initial location policy is identical for two water body types. Great Bay and Great Egg Harbor are examples of semi-enclosed bays, Barnegat Bay, Little Egg Harbor, the Shark River estuary and other bays in Atlantic and Cape May Counties are back bays. This combined water body type has three depth levels (0-1/2', 1/2'-6', and 6'+).

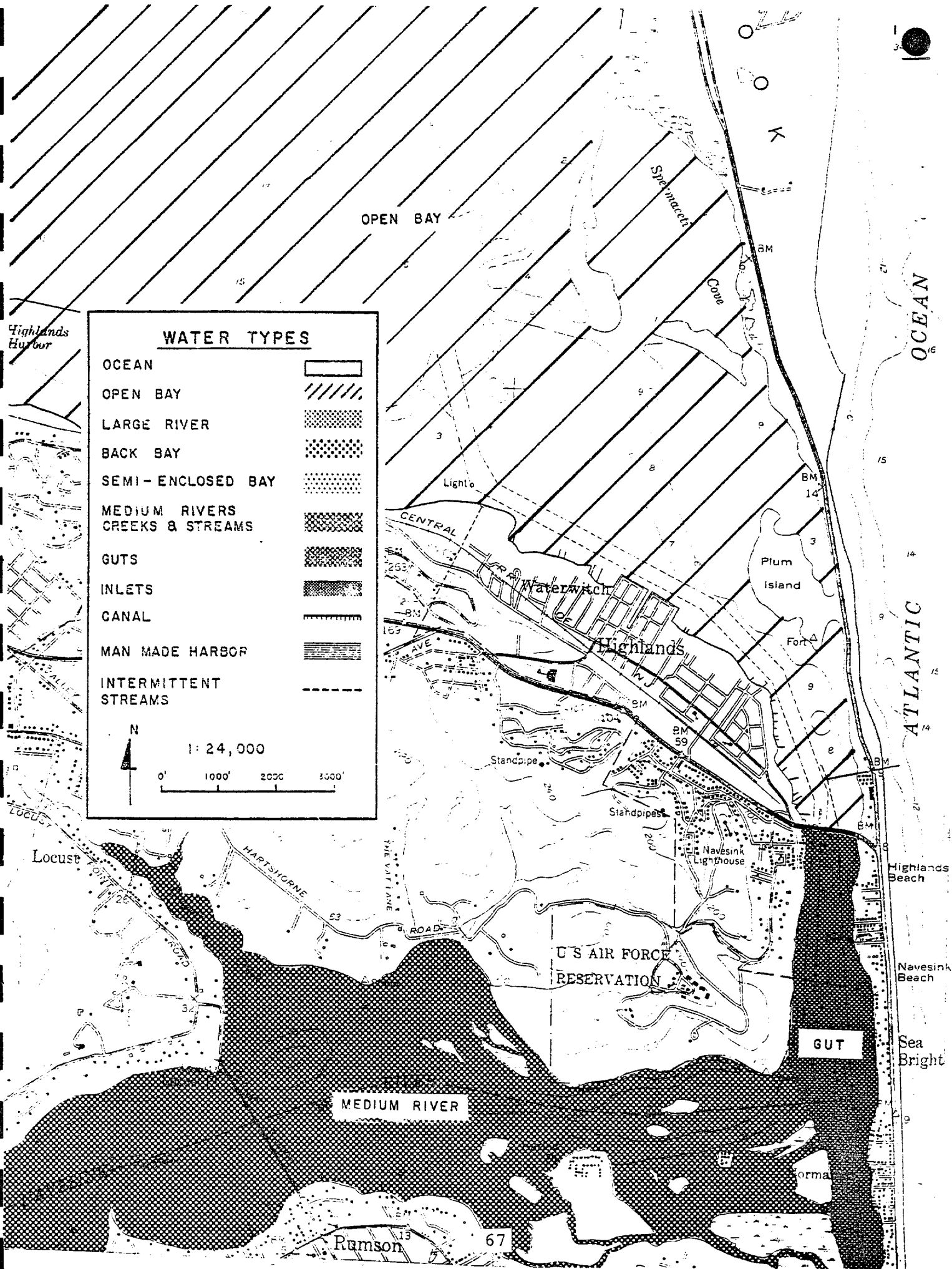
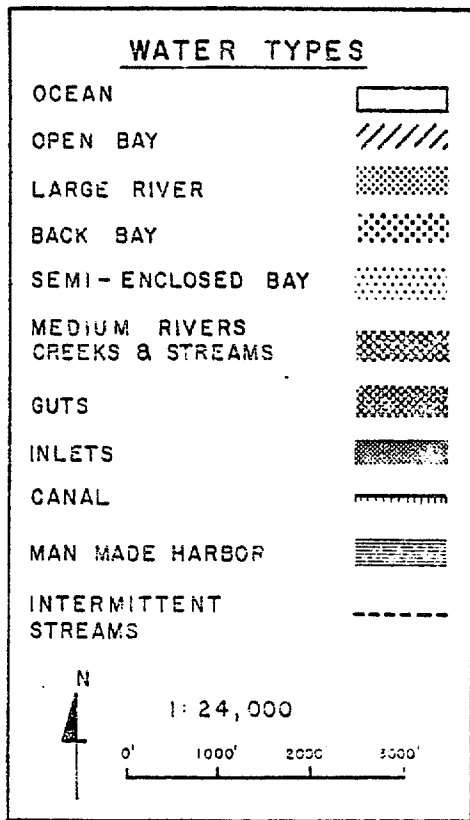
3.3.5.4 Inland Basins

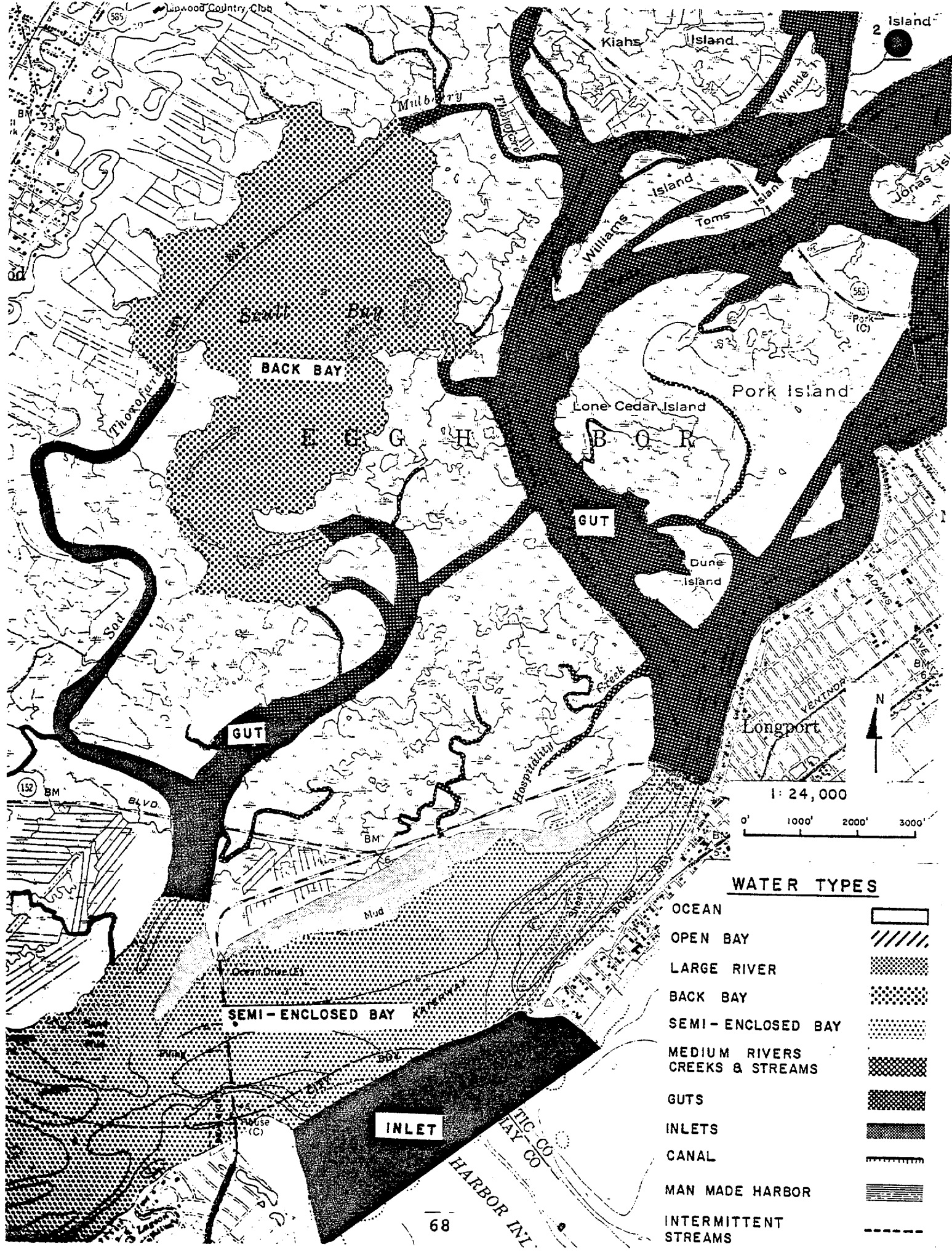
This basin type includes enclosed freshwater basins, both shallow and deep, with little or insignificant flow, such as lakes, ponds, and reservoirs.

Figure 7

WATER BODY TYPES







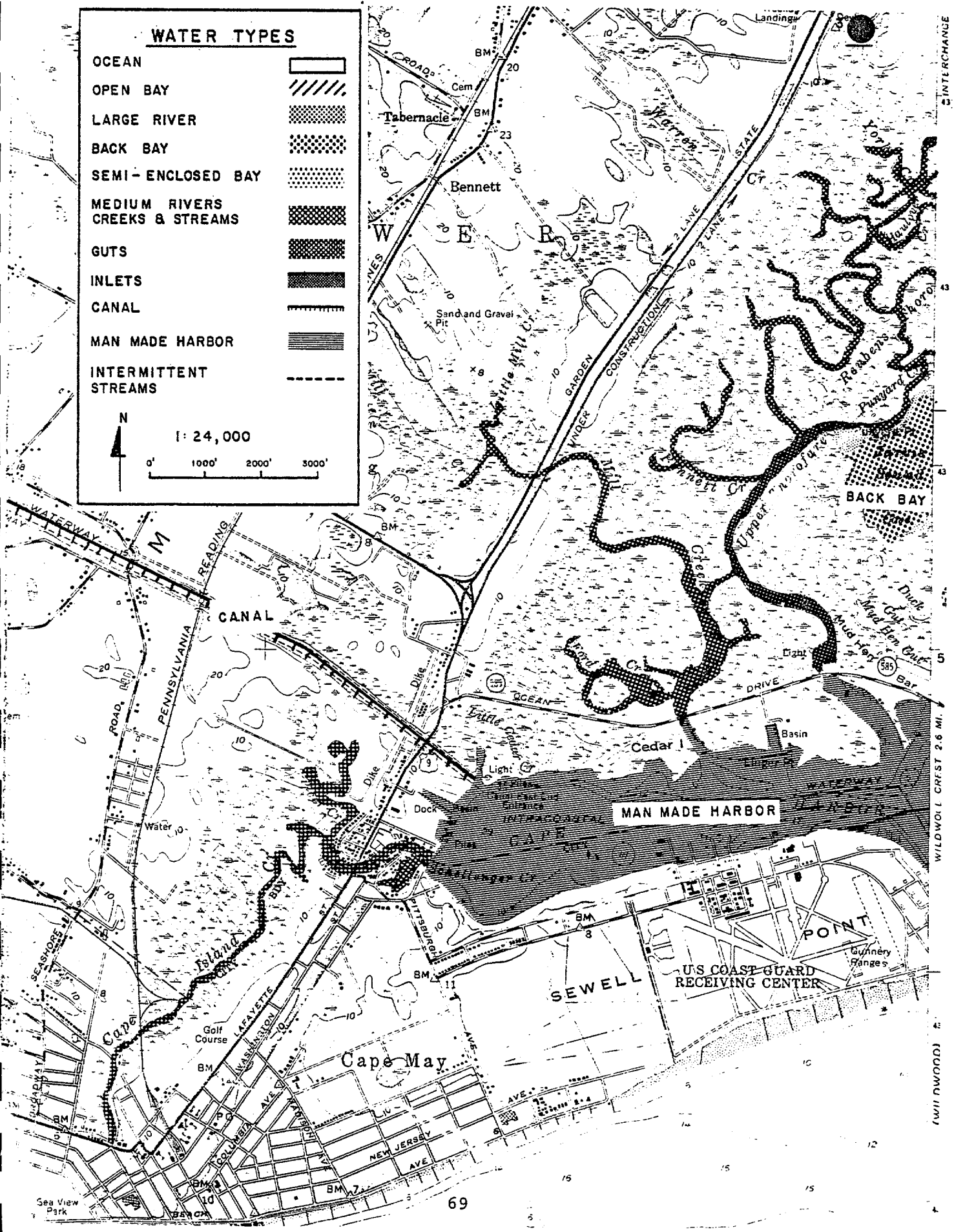
WATER TYPES

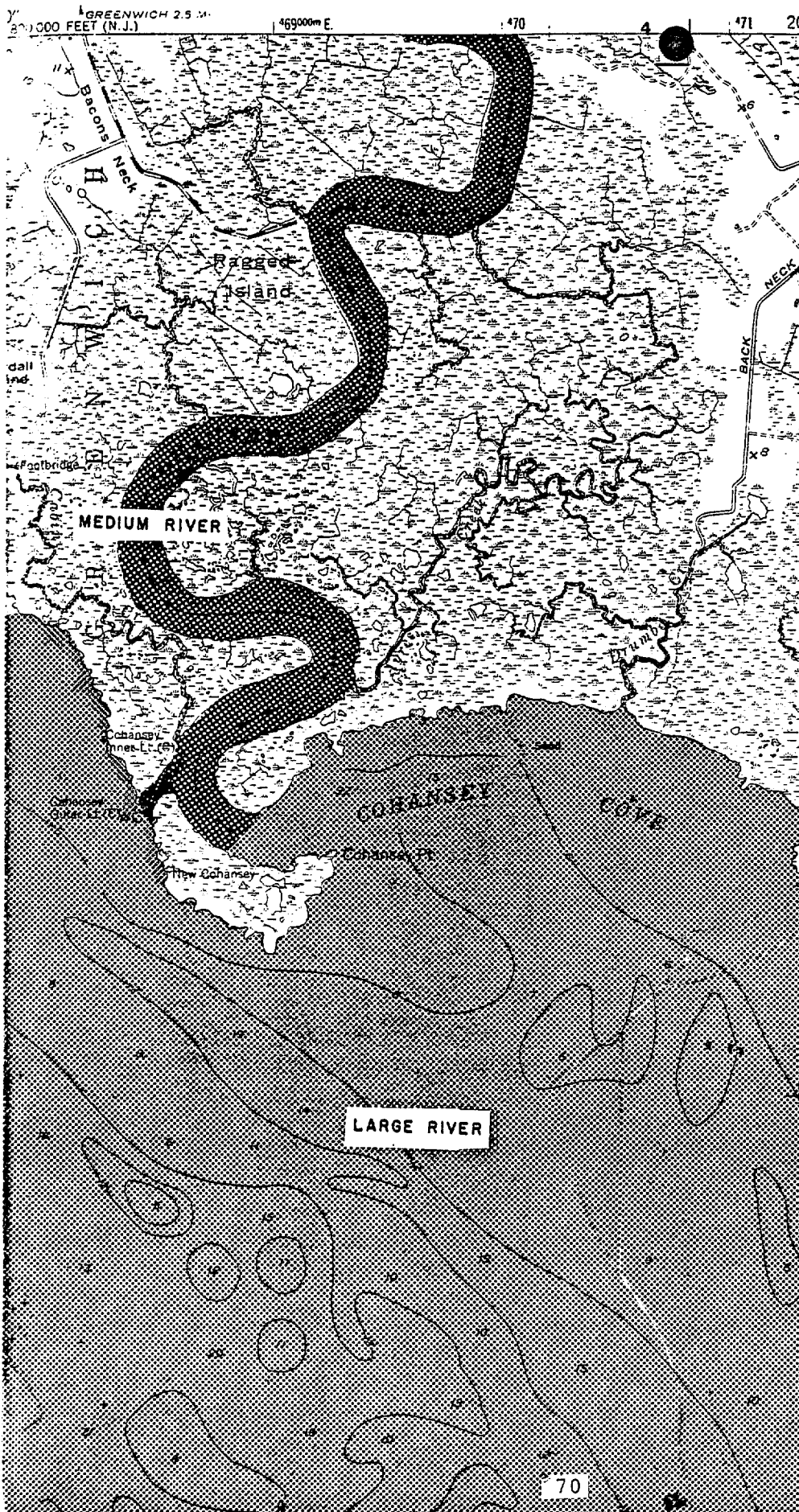
OCEAN	
OPEN BAY	
LARGE RIVER	
BACK BAY	
SEMI-ENCLOSED BAY	
MEDIUM RIVERS CREEKS & STREAMS	
GUTS	
INLETS	
CANAL	
MAN MADE HARBOR	
INTERMITTENT STREAMS	

N

1: 24,000

0' 1000' 2000' 3000'





WATER TYPES

OCEAN	
OPEN BAY	
LARGE RIVER	
BACK BAY	
SEMI-ENCLOSED BAY	
MEDIUM RIVERS CREEKS & STREAMS	
GUTS	
INLETS	
CANAL	
MAN MADE HARBOR	
INTERMITTENT STREAMS	

N

1:24,000

0' 1000' 2000' 3000'

3.3.5.5 Man-Made Harbor

This basin type includes existing ports, marine terminals, marinas and other semi-enclosed water bodies protected by man-made structures, such as a breakwater. This type also includes the water area of existing dead end lagoons, both linear and branched.

3.3.5.6 Large River

This channel type includes flowing waterways with watersheds greater than 1,000 square miles, which means the Delaware, Hudson, and Raritan Rivers.

3.3.5.7 Medium Rivers, Streams and Creeks

This channel type includes waterways with a watershed area of less than 1,000 square miles. This includes watercourses such as the Navesink, Manasquan, Toms, Wading, Mullica, Great Egg, Maurice, Cohansey, Salem and Rancocas and smaller streams. This water body type has three depth levels (0'-1/2', 1/2'-6', and 6'+)

3.3.5.8 Intermittent Streams

This channel type includes ephemeral streams that appear intermittently, depending upon the season, the depth of the water table, and precipitation, with watersheds of less than one square mile.

3.3.5.9 Guts

This channel type includes tidal waterway connections between two estuarine bodies of water. Also known as thorofares, guts have no significant freshwater drainage.

3.3.5.10 Inlets

This channel type includes natural narrow connections between estuaries and the ocean.

3.3.5.11 Canals

This channel type includes man-made canal between water bodies, specially the Cape May Canal and the Bay Head-Manasquan Canal.

3.3.6 Rationale for Policies by Water Body Type

3.3.6.1 Ocean

The largest water body found within the coastal zone is the Atlantic Ocean. The vast volume of water together with strong wind induced mixing, surface and subsurface currents, and tidal pulse make the ocean the water body most able to assimilate human induced stresses. The assimilative capacity of the ocean is not unlimited, nor are all the benthic and pelagic and surface organism equally resilient to stresses. The high energy marine system simultaneously provides opportunity for various uses such as recreation and waste disposal and imposes several constraints to human structures.

Marine waters are divided into two depth categories: the shallower portion is most commonly thought of as the surf zone, which is of national recreational value. Uses which would impact the recreational values are consequently discouraged from these location. Uses located within deeper portions have less potential to adversely impact coastal resources or induce impacts such as ocean shoreline instability.

3.3.6.2 Open Bays

Open bays include Delaware Bay and Raritan/Sandy Hook/Lower Bay Complex. These are the largest estuarine systems within the New Jersey coastal zone. All estuaries provide essential nursery habitat for marine finfish and shellfish while providing organic nutrients for marine/estuarine food webs.

Open bays have traditionally been used as commercial shipping entrances to the New Jersey/New York harbors and New Jersey/Pennsylvania/Delaware harbors, and have consequently suffered from extensive human perturbations, with the northern area being more severely disturbed.

Open bays have large rivers discharging into their upper portions. Although a less vigorous environment than the coastal sea, surface wave action can be high during strong wind conditions. Open bays are extensively used for commerce and recreation, although recreation and commercial fin and shellfish has been constrained by sewage pollution.

These water bodies are subdivided into three categories based solely on water depth. The criteria of depth was used as this factor is closely related to dilution potential.

3.3.6.3 Semi-Enclosed and Back Bays

Semi-enclosed water bodies are the estuaries behind barrier beach islands with restricted, indirect, or shallow inlets to the open ocean. This category includes all non-riverine estuarine water bodies including embayments and back bays.

These areas are more sensitive to human disturbance, because of the very limited to moderate freshwater inflow, slower tidal flushing, and smaller water body volume.

The semi-enclosed estuaries are critical to the protection and perpetuation of the coastal ecosystem. Their physically protected geography allows more sensitive or fragile organisms to survive than in the more vigorous ocean and open bays. The vast majority of important marine finfish, shellfish and aquatic birds utilize these areas as critical nursery habitats. The contiguous coastal wetlands perform the essential role of photosynthesis, resulting in natural organic material export into the coastal sea through the action of tidal and storm induced flushing.

These estuarine water bodies are subdivided into three categories based solely upon the criteria of relative water depth. Deeper water portions are the areas most intensively used by man for water surface activities such as navigation. Deeper water areas have a greater physical ability to dilute pollutants and biological detoxified toxic agents. This assimilative capacity is not unlimited however. Shallow water area generally have less potential dilution and flushing.

3.3.6.4 Inland Basins

This category includes lake, ponds, and reservoirs virtually all of which in the unglaciated coastal plain of southern New Jersey are man-made (impoundments). These types are relatively small water bodies with no tidal influence or salinity. Many inland basins are groundwater fed, while others are known to serve as surface aquifer recharge areas.

Inland basin have a severely limited ability to flush pollutants owing to limited freshwater inflow and lack of tidal inundation. Pollutants which enter these areas can precipitate to the bottom, remaining a continuing source of contamination. Certain basins also serve as potable surface water sources.

Due to the limited extent of this type, no depth subdivision are made.

3.3.6.5 Man-made Harbors

This category includes all created water body features that were previously land or water's edge features, including marine terminals, major ports, marinas and lagoons, whether linear or branched.

Man-made harbors were created for the purpose of facilitating navigation for commercial or recreational purposes. Harbors are non-natural water features with dredged bottoms and bulkheaded shorelines. Since these areas have been previously devoted to intensive human use, which helps generate monies to local economic and recreational use, policies perpetuating these values are appropriate.

3.3.6.6 Large Rivers

Large rivers include the Delaware, Hudson and Raritan Rivers. These water bodies have a long history of intensive human use, especially in commerce. These economic interests must be accommodated. Large rivers are all drained by watersheds in excess of 1,000 square miles, and are tidally influenced within the Bay and Ocean Shore Segment. These factors allow for flushing of pollutants, although extensive portions of each are presently over-stressed with sewage and industrial wastes.

3.3.6.7 Medium Rivers, Creeks, and Streams

This category includes all flowing riverine water bodies within the Bay and Ocean Shore Segment except as listed above. Medium rivers have from moderate to small discharge rates. Many within the Segment are tidally influenced and most are relatively shallow, and of smaller volume. These factors combine to render these features more susceptible to degradation through human activities.

Medium rivers, creeks, and streams are subdivided by water depth, which reflects the presumed abilities of water areas with greater volume and circulation to dilute and assimilate potential pollutants or accommodate the intensity of surface water activities.

3.3.6.8 Intermittent Streams

These are permanent surface and ground water drainageways where flow rates fluctuate, with no surface water during dry seasons. Due to the discontinuous presence of surface water, many water dependent uses are not feasible or would require extensive alterations.

3.3.6.9 Guts

Guts, also called thorofares, are connecting water features within the estuarine system. They have no upland freshwater drainage, their flow rates vary, all are tidally influenced, and their natural water depths vary.

Guts serve as important access ways for human navigation, physical water circulation and tidal flushing of estuaries. Also aquatic organisms migrate in and out of upstream tidal areas through guts.

3.3.6.10 Inlets

Inlets are a channel type which connect estuarine areas with the ocean. All inlets are tidally influenced.

These areas serve a critical function as access ways for human navigation, water circulation, tidal flushing of estuaries, upland freshwater drainage, aquatic organism migration or movements in and out of estuaries, and for estuarine produced natural organic material.

3.3.6.11 Canals

Canals are artificial water bodies created to promote and aid navigation along the Intra-coastal waterway between upper Barnegat Bay and the Manasquan River and between Cold Spring Harbor and Delaware Bay near Cape May Point. This type has no significant freshwater drainage. Tidal flows are strong. Uses within this type must not constrain navigation.

3.3.7 Definitions of Water Uses

Numerous developments or activities seek locations in New Jersey's coastal waters. Some uses involve locations both above and below the mean high water line, in both Water and Water's Edge areas. This section defines generally the important uses of water areas managed by the Coastal Management Program. Some uses involve combinations of uses, such as retaining structures, dredging, and filling. Other uses, such as Shore Protection uses, are defined elsewhere under Use Policies.

3.3.7.1 Aquaculture

Aquaculture is the use of a permanently inundated water area, whether saline or fresh, for the purposes of growing and harvesting plants or animals in a way to promote more rapid growth, reduce predation, and increase harvest rate. Oyster farming in Delaware Bay is a form of aquaculture.

3.3.7.2 Boat Ramps

Boat ramps are inclined planes, extending from the land into a water body for the purpose of launching a boat into the water until the water depth is sufficient to allow the boat to float. Boat ramps are most frequently paved with asphalt or concrete, or covered with metal grates.

3.3.7.3 Retaining Structures

Retaining structures are retaining walls stabilizing shorelines. Bulkheads are vertical retaining structures. Revetments are inclined retaining walls for the same purpose. Sea walls are bulkheads or revetments that face the ocean.

3.3.7.4 Docks and Piers

Docks and piers are large or small structures in the water for the purpose of gaining access to moored boats for commercial or recreational purposes or for fishing or recreational purposes. Docks are usually supported on pilings driven into the bottom substrate, but docks can float on the surface. Docks made of fill and retaining structures are considered under the water use types of filling and retaining structures.

3.3.7.5 Dredging-Maintenance

Maintenance dredging is the removal of accumulated sediment from areas where dredging has taken place in the past, such as navigation channels, marinas, or boat moorings, for the purpose of maintaining a required water depth for navigation purposes.

3.3.7.6 Dredging - New

New dredging is the removal of sediment from the bottom of a water body that has not been previously dredged or excavated, for the purpose of increasing water depth.

3.3.7.7 Dredged Spoil Disposal

Dredged spoil disposal is the discharge of sediments (spoils) removed during dredging operations.

3.3.7.8 Dumping (Solid Waste or Sludge)

The dumping of solid waste or sludge is the discharge of solid or semi-solid waste material from industrial or domestic sources or sewage treatment operations into a water area.

3.3.7.9 Filling

Filling is the deposition of inorganic material (sand, soil, earth, dredge spoils, etc.) into water areas for the purpose of raising water bottom elevations.

3.3.7.10 Piling

Piling is the insertion of columnar structural members into the water bottom substrate.

3.3.7.11 Mooring

A boat mooring is a temporary or permanent, piling or floating anchored facility in a water body for the purpose of attaching a boat.

3.3.7.12 Sand and Gravel Extraction

Sand and gravel extraction is the removal of sand or gravel from the water bottom substrate, usually by suction dredge.

3.3.7.13 Bridges

Bridge construction is the building of a vehicle or pedestrian access route across a water body.

3.3.7.14 Cable Routes

Cable routes are the lines along which telecommunication cables or electrical transmission lines are laid.

3.3.7.15 Overhead Transmission Lines

Overhead transmission lines are electrically conducting wires hung between supporting pylons for the transmission of electrical power from generating plant to the site of consumption.

3.3.7.16 Pipeline Routes

Pipeline routes or corridors are linear sites along which hollow pipes are laid, buried, or trenched for the purpose of transmitting fluids. Examples would be crude oil, natural gas, raw or potable water, petroleum products or sewage pipelines. Construction of an underwater pipeline may involve trenching, temporary trench spoil storage, and back filling, or jetting as an alternative to trenching.

3.3.7.17 Dams and Impoundments

Dams and impoundments are structures that obstruct natural water flow patterns for the purpose of forming a contained volume of water. Impoundments include dikes with sluice gates and other structures to control the flow of water.

3.3.7.18 Pipes

Pipes are tubular structures of metal, concrete, plastic, or other material that are located in Water Areas for the purpose of intake or discharge of effluent.

3.3.7.19 Miscellaneous

Miscellaneous includes uses of Water Areas not specifically defined in this section or addressed in the Use Policies.

3.3.8 Water Acceptability Conditions

The Water Acceptability Table identified numerous uses that are conditionally acceptable or discouraged at various water locations. This section defines those conditions, in addition to the Use and Resource Policies of the Coastal Management Program.

3.3.8.1 Aquaculture

Aquaculture is conditionally acceptable in many water body types, providing that water recreation and resort uses are not unacceptably restricted, and that aquaculture practices do not cause adverse off-site environmental impacts.

3.3.8.2 Boat Ramps

Boat ramps are conditionally acceptable on ocean shores providing that there is a demonstrated need that cannot be satisfied by existing facilities; that the shoreline is not a high risk erosion area; and that the adjacent shorefront areas are intensely developed with resort-related uses.

Boat ramps are conditionally acceptable on shallow ocean and bay shores and river banks providing that (a) they cause minimal practicable disturbance to intertidal flats or subaqueous vegetation, (b) there is a demonstrated need that cannot be satisfied by existing facilities, (c) there is access to an existing navigation channel of adequate depth, and (d) the location policies for the water's edge areas are satisfied.

Boat ramps shall be constructed of environmentally acceptable materials such as concrete or oyster shell. Public use ramps have priority over restricted use and private use ramps. Applications for restricted and private use ramps will be approved only if they can demonstrate that a public use ramp is not feasible. Refuse barrels shall be provided as part of a boat ramp.

3.3.8.3 Retaining Structures

Bulkheads, revetments, and sea walls and other retaining structures are generally discouraged in Water Areas. On a case by case basis, shoreline retention structures may be considered for acceptability if it can be shown that without shoreline stabilization there is danger to life or property or that water dependent uses that satisfy the Location Policy requirements for Water's Edge Areas cannot feasibly operate without the structure. A small retaining structure that connects two existing lawful retaining structures may be considered for acceptability if it would provide a net benefit to the environment. Rip-rap is a preferred construction material for retaining structures as it provides a habitat for aquatic life and helps absorb wave energy. The Coastal Engineering Use Policies provide more detailed conditions.

3.3.8.4 Docks and Piers

New docks and piers are conditionally acceptable in some water body types provided that: (a) there is a demonstrated need that cannot be satisfied by existing facilities, (b) the adjacent shorefront is intensely used for coastal recreation, (c) the location policies for water's edge areas are satisfied, (d) the construction minimizes adverse environmental impact to the maximum extent feasible, (e) the docks and piers are located so as to not hinder navigation or conflict with overhead transmission lines, and (f) there is minimum feasible interruption of natural water flow patterns. Docks and piers on

pilings shall be preferred to solid constructions on fill. Applicants shall demonstrate why floating docks and piers cannot serve the required purpose. Repairs and maintenance of existing docks and piers are generally acceptable.

3.3.8.5 Dredging-Maintenance

Maintenance dredging is acceptable to the authorized depth in all existing navigation channels, access channels, and boat moorings to ensure that adequate water depth is available for safe navigation, provided that an acceptable spoil disposal site exists. Maintenance dredging is acceptable to provide access to marinas, docks, ports, and other appropriate water-dependent facilities. Maintenance dredging is impractical in a number of water body types at locations outside of the Navigation Channels Special Areas.

3.3.8.6 Dredging-New

New dredging is generally discouraged. On a case by case basis, new dredging may be considered for acceptability for boat moorings or navigation channels providing that: (a) there is a demonstrated need that cannot be satisfied by existing facilities, (b) the facilities served by the new dredging satisfy the location requirements for water's edge areas, (c) the adjacent water areas are currently used for recreational or commercial boating, (d) the dredge area causes no significant disturbance to intertidal flats or subaqueous vegetation, (e) the adverse environmental impacts are minimized to the maximum extent feasible, (f) an acceptable dredge spoil disposal site exists, and (g) the dredged area is reduced to the minimum practical. New dredging or excavation to create new lagoons for residential development is prohibited.

3.3.8.7 Dredged Spoil Disposal

Subaqueous disposal of dredge spoils is prohibited in most water body types, until the acceptability of this technique is demonstrated by appropriate research.

Clean dredge sediments of suitable particle size are acceptable for beach nourishment on ocean or open bay shores. Additional conditions for Dredge Spoil Disposal are indicated in the Coastal Engineering Use Policies.

3.3.8.8 Dumping

The dumping of solid or semi-solid waste of any description in any coastal waters is prohibited.

3.3.8.9 Filling

Filling is generally discouraged in all coastal waters. Clean sediment of suitable particle size and composition is acceptable for beach nourishment projects (see the Coastal Engineering Use Policies). Limited filling may be considered elsewhere for acceptability on a case by case basis provided that: (a) the use that requires the fill satisfies the location policies for the water's edge, (b) there is a demonstrated need that cannot be satisfied by existing facilities, (c) there is no feasible or practical alternative to filling and that filling is essential to the functioning of the use, (d) the minimum practical area is filled, (e) the adverse environmental impacts are minimized, and (f) intertidal flats and Special Areas are not disturbed.

3.3.8.10 Piling

Piling is usually associated with docks, shoreline structures, and piers and must satisfy the conditions set out above for these uses. Piling that is an element of a use addressed in a Use Policy must satisfy the Use Policy.

3.3.8.11 Mooring

Temporary or permanent boat mooring areas are conditionally acceptable in some water body types provided that the mooring area is adequately marked and is not a hazard to navigation.

3.3.8.12 Sand and Gravel

Sand and gravel mining for mineral extraction or beach nourishment is conditionally acceptable in the deep ocean and inlets providing that: (a) areas of finfish and shellfish concentration are neither directly or indirectly degraded, (b) the physical and chemical impacts associated with turbidity and release of toxic agents from substrate layers are minimized to the maximum extent practicable, and adhere to applicable water quality standards, and (c) the visual impact of dredging machinery from shore areas is acceptable.

3.3.8.13 Bridges

Bridges are conditionally acceptable over rivers and streams provided that there is a demonstrated need that cannot be satisfied by existing facilities and that the secondary impacts of the new or improved bridge are acceptable (see the Secondary Impact Policy in the Resources Policies).

3.3.8.14 Cable Routes

Cable routes are conditionally acceptable provided that (a) the route avoids Special Areas to the maximum extent practicable, (b) the route avoids areas where anchors may foul the cable, and (c) the alignment of the cable route is marked at the land-fall and by buoys at the surface.

3.3.8.15 Overhead Transmission Lines

Overhead transmission lines are prohibited, except over specified water body types where transmission lines will be considered for acceptability provided that: (a) there is a demonstrated need that cannot be satisfied by existing facilities, (b) there is no feasible alternate route that avoids crossing water bodies, (c) further development likely to be induced by the transmission lines is acceptable, (d) adequate safety precautions are included to prevent a broken cable touching the water in case of accidental breakage, and the transmission line provides adequate vertical clearance for masts.

3.3.8.16 Pipeline Routes

Pipeline routes are conditionally acceptable provided that (a) they are not sited within Special Areas, unless no prudent and feasible alternate route exists, (b) trenching takes place to a sufficient depth to avoid puncturing or snagging anchors or sea clam dredges, and (c) the pipeline is sufficiently deep to avoid uncovering by erosion of water currents, (d) the conditions outlined for pipelines in the Use Policies (See Section 7.0) are satisfied. Temporary trench spoil storage and back filling as part of pipeline trenching is acceptable provided that bottom contours are reestablished following trench spoil removal to the original bottom contours, to the maximum extent practicable. Jetting pipelines into bottom sediments is conditionally acceptable provided that trenching and backfilling are impractical.

3.3.8.17 Dams and Impoundments

Dams and impoundments are impractical in many water body types, prohibited in other water body types, and discouraged in specified water body types, unless essential for water supply purposes or the creation of special wildlife habitats.

3.3.8.18 Pipes

Pipes and outfalls for the intake or discharge of effluent are conditionally acceptable provided that the use associated with the pipe meets the Coastal Resource and Development Policies and the effluent meets all applicable water quality statutes and regulations. The Water Areas policy applies only to the location of the pipes, not to the effluent.

3.3.8.19 Miscellaneous

Uses of Water Areas not identified in the Water Acceptability Table or addressed in the Use Policies will be analyzed on a case-by-case basis.

3.4 Water's Edge Areas

3.4.1 General Definition of Water's Edge

The Water's Edge is a strip of natural or disturbed land and water areas at the interface between Water Areas (both tidal and non-tidal) and Land Areas. The Water's Edge includes three broad categories: Natural Water's Edge, Retained Water's Edge, and Filled Water's Edge. In general, the Water's Edge extends from the mean high water line to either the landward limit of soils with a seasonal high water table at the surface or the cultural feature closest to the Water Area, whichever is the lesser distance.

3.4.2 Natural Water's Edge

3.4.2.1 Definition

On the mainland, the Natural Water's Edge includes natural, undisturbed land and water features that are contiguous with Water Areas and stretch from Water Areas to the landward limit of soils with a seasonal high water table at the surface excluding Atsion soils, or the first cultural feature such as a road, whichever lies closest to the water. On barrier islands, spits, and headlands, the seasonal high water table criterion does not apply. (However, the Special Area policies of Wetlands, Beaches, Dunes and Central Barrier Island Corridor do apply.) The upper

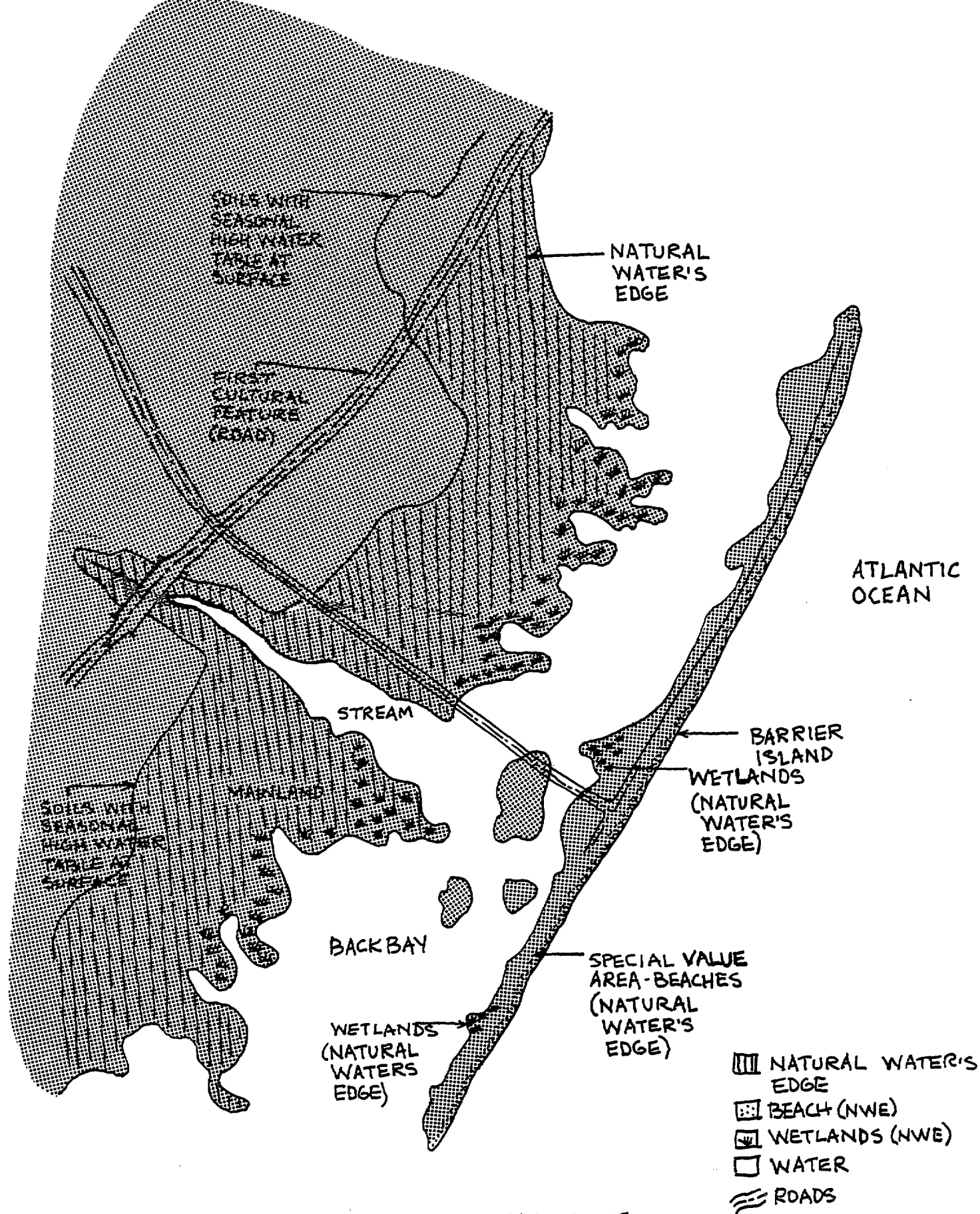


FIGURE 8. NATURAL WATER'S EDGE

limit of the Natural Water's Edge is defined by either the landward limit of Coastal Wetlands and/or Beaches Special Areas. The limit of soils with a seasonal high water table at the surface may be determined using reports from the National Cooperative Soil Survey prepared by the U.S. Department of Agriculture, Soil Conservation Service, or by a specific soil survey at the site (See Figure 8).

3.4.2.2 Policy

In general, development is discouraged in the Natural Water's Edge, unless the development satisfies all of the following conditions:

- (a) Requires water access or is water-oriented as a central purpose of the basic function of the activity (this condition applies only to development proposed on or adjacent to waterways),
- (b) Has no prudent or feasible alternative on a non Natural Water's Edge site,
- (c) Is immediately adjacent to existing Water's Edge development, and
- (d) Would result in minimal feasible alteration of on-site vegetation.

3.4.2.3 Rationale

The land-water interface is among the most sensitive parts of the coastal ecosystem. When left undeveloped, the Natural Water's Edge serves several important functions: maintenance of estuarine productivity, control of stream flow variation, erosion and sediment control, flood control, water purification, channel stabilization, open space and recreation, and maintenance of wildlife habitats. Also, construction in the Natural Water's Edge usually requires costly drainage, filling, excavation, or piling, which further adversely affects coastal resources. If left undisturbed, the Natural Water's Edge provides a valuable buffer to protect Water Areas from upland activities. The Natural Water's Edge also includes areas such as freshwater wetlands and lowland swamp forests.

3.4.3 Retained Water's Edge

3.4.3.1 Definition of Retained Water's Edge

Retained Water's Edge Areas are adjacent to either Water Areas or Natural Water's Edge Areas as defined above and stabilized with existing bulkheads, revetments or sea walls. The lower limit of the Retained

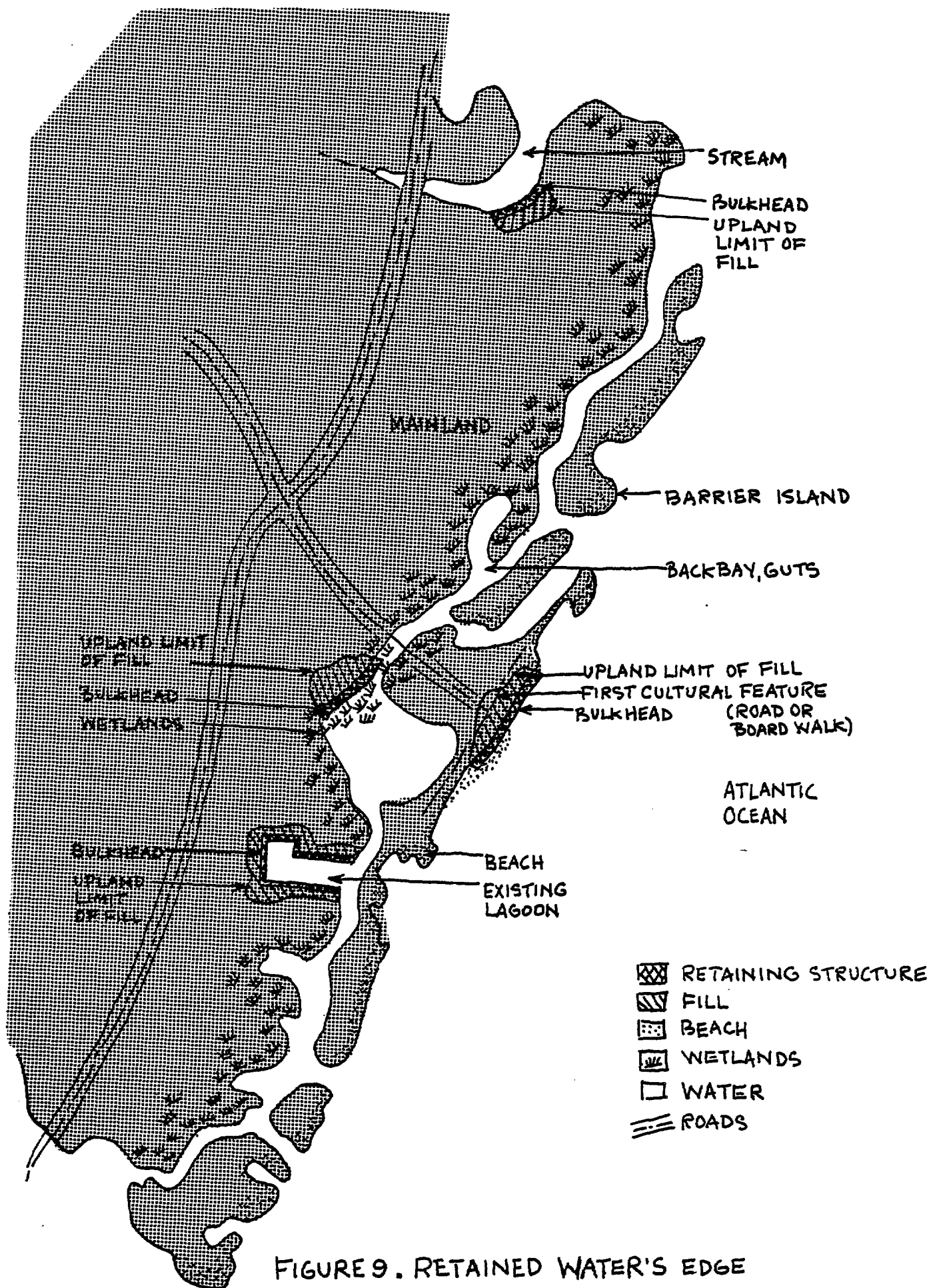


FIGURE 9. RETAINED WATER'S EDGE

Water's Edge is the line of the retaining structure. The upper limit of the Retained Water's Edge is the upland limit of fill or the first public cultural feature inland from the retaining structure (such as a road or boardwalk) whichever is the lesser. Two types of Retained Water's Edge Areas exist, along both open water bodies and those along man-made lagoons (See Figure 9).

3.4.3.2 Policy

Development is acceptable in Retained Water's Edge Areas along open water bodies providing that: (a) the development is either water dependent or the site is proposed for a public recreation or resort use (This latter category would include waterfront parks) and is compatible with adjacent land uses, (b) the structural condition of the existing retaining structure is adequate to protect the structure, or the proposed development provides for adequate repair of the structure, and (c) the site would not contribute to the extension of Central Barrier Island Corridor through development.

Development is conditionally acceptable on Retained Water's Edge Areas along existing non-developed, man-made lagoons providing that: (a) the development is compatible with adjacent land uses, and (b) the structural condition of the existing retaining structure is adequate to protect the proposed development or the proposed development provides for adequate repair of the structure.

3.4.3.3 Rationale

Retained Water's Edge areas are of less environmental concern than undisturbed water's edge areas. The buffering functions of the water's edge have already been largely lost through excavation, filling and the construction of retaining structures. It is acceptable to allow certain kinds of development up to the line of the existing retaining structure. Because the waterfront is a scarce resource, it is desirable to limit development in these areas to uses that are either dependent on direct water access or uses that are related to shoreland recreation and benefit the most number of people. The construction of new private housing along built up open water bodies would be an inefficient use of this scarce resource, but such uses as public waterfront parks, hotels and restaurants would be acceptable.

3.4.4 Filled Water's Edge

3.4.4.1 Definition of Filled Water's Edge

Filled Water's Edge areas occur when existing filled areas lie immediately adjacent to Water or Natural Water's Edge Areas including streams, and there is no retaining structure along the shoreline. The landward limit of the Filled Water's Edge is the first cultural feature landward of the adjacent Water Area, or the upland limit of fill, whichever is the lesser. Two types of Filled Water Edge are defined: those along open water bodies and those along existing man-made lagoons. Some existing or former dredged spoil and excavation fill disposal sites are Filled Water's Edge Areas (See Figure 10).

3.4.4.2 Policy

The development of Filled Water's Edge Areas along open water bodies is discouraged, except for public-oriented or water-dependent uses that demonstrate that site reclamation is infeasible.

Development on Filled Water's Edge Areas along existing but undeveloped man-made lagoons is conditionally acceptable provided that,

- (a) reclamation of the site is infeasible,
- (b) the development is compatible with adjacent land and water uses,
- (c) stabilization of the slope of the Filled Water's Edge occurs using natural materials to provide an appropriate buffer, to the maximum extent practicable, and
- (d) causes minimal feasible adverse impact on adjacent land and water areas.

3.4.4.3 Rationale

Filled lands adjacent to water areas represent potential problems for water quality. The slope must be stabilized in order to prevent erosion, turbidity and loss of estuarine productivity.

These problems have been well documented in Grant F. Walton, et. al., Evaluation of Estuarine Site Development Lagoons (New Brunswick, N.J.: Rutgers-Water Resources Research Institute, 1976). Thousands of undeveloped building lots exist in the Bay and Ocean Shore Region along stabilized and unstabilized

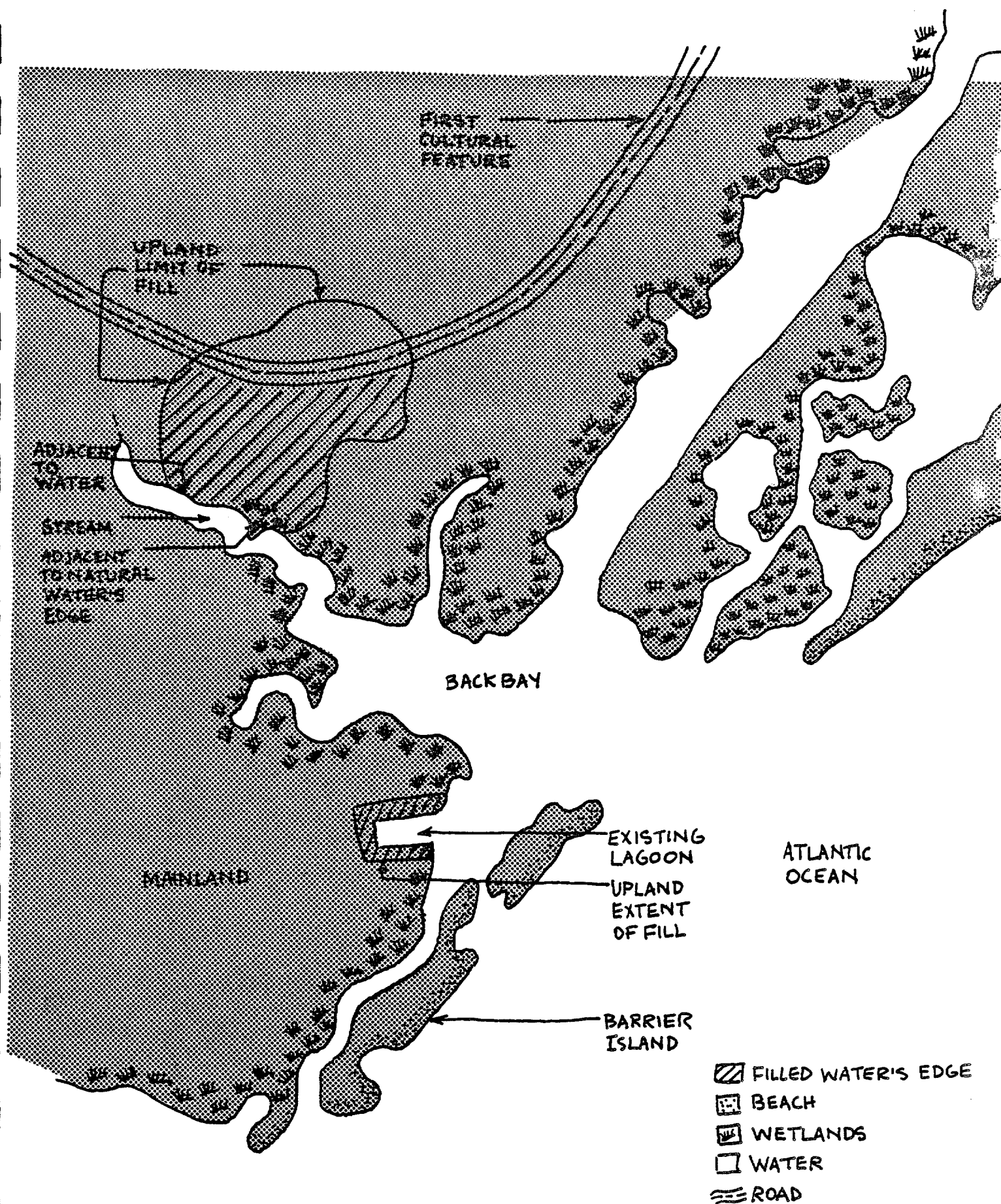


FIGURE 10. FILLED WATER'S EDGE

lagoons created by destroying wetlands in the 1950's and 1960's. Development of these residential lots is acceptable provided that water quality standards are met and the banks of the filled areas are revegetated, or retained, since the fundamental and near irretrievable damage to the environment of these areas took place a decade or more ago.

3.5 Land Areas

3.5.1 General Definition of Land Areas

Land Areas include all mainland land features located upland of the Water's Edge, which is typically defined by the limit of soils with a seasonal high water table at the surface.

3.5.2 General Policy for Land Areas

The acceptability for development of Land Areas is defined in terms of three levels of acceptable development intensity. Three factors determine the acceptable development intensity for various locations in Land Areas: (a) Coastal Region, (b) Environmental Sensitivity, and (c) Development Potential. Assessment of these three factors indicates the appropriate pattern of development from a broad, regional perspective and provides a method for determining the acceptable intensity of development of specific sites, as well as entire regions.

Determination of the specific policy for a Land Area site is a four step process. First, the Coastal Region in which the site is located is determined. Second, the Environmental Sensitivity and Development Potential of the site are determined. Third, the Land Acceptability Table for the appropriate region is consulted to determine the acceptable intensity of development of the site, given the three possible combinations of Development Potential and Environmental Sensitivity factors for the site or parts of the sites. Fourth, the proposed intensity of development of the site is compared with the acceptable intensity of development for the site.

Coastal development which does not conform with the acceptable intensity of development of a site is discouraged.

3.5.3 Coastal Regions

3.5.3.1 General

The Bay and Ocean Shore Region of the coastal zone is classified into ten different regions on the basis of the varied patterns of coastal development and resources. For these regions, DEP uses three broad regional growth strategies: (a) High Growth, (b)

Moderate Growth, and (c) Low Growth. High Growth means that infill, extension, and some scattered development patterns are acceptable, from a regional coastal management perspective. Moderate Growth means that infill and some extension development patterns are acceptable. Low Growth means that only infill development is acceptable (See Figure 4 in Chapter Three).

3.5.3.2 Barrier Island Region

The oceanfront barrier islands and spits constitute the Barrier Island Region. The Land Areas Policy does not apply to the Barrier Islands Region, which is composed entirely of various Special Areas.

3.5.3.3 Northern Region

The Northern Region includes those portions of Monmouth and Middlesex County that are within the Bay and Ocean Shore Region and is designated a High Growth Region.

3.5.3.4 Central Region

The Central Region includes those portions of Ocean County within the Bay and Ocean Shore Region that are north of State Highway 37 and west of the Garden State Parkway, and those parts of the county north of Cedar Creek and east of the Parkway, and is designated a High Growth Region.

3.5.3.5 Western Ocean County Region

The Western Ocean County Region includes those portions of Ocean County west of the Garden State Parkway and south of State Highway 37, and is designated a Moderate Growth Region.

3.5.3.6 Barnegat Corridor Region

The Barnegat Corridor Region includes those portions of Ocean County south of Cedar Creek and north of State Highway 72, and is designated a Moderate Growth Region.

3.5.3.7 The Mullica-Southern Ocean Region

The Mullica-Southern Ocean Region includes those portions of Ocean County south of State Highway 72, all of Burlington County, and those portions of Atlantic County north of County Road 561, located within the Bay and Ocean Shore Region, and is designated a Low Growth Region.

3.5.3.8 Absecon-Somers Point Region

The Absecon-Somers Point Region includes those mainland portions of Atlantic County south of County Road 561, and east of Garden State Parkway, and is designated a High Growth Region.

3.5.3.9 Great Egg Harbor River Region

The Great Egg Harbor River Region includes those portions of Atlantic County southwest of County Road Alternate 559 and those portions of Cape May County east of State Highway 50, north of County Road 585, and west of U.S. Highway 9, and is designated a Low Growth Region.

3.5.3.10 Southern Region

All of Cape May County, within the Bay and Ocean Shore Region, except for that portion in the Great Egg Harbor River Region, is designated a Moderate Growth Region.

3.5.3.11 Delaware Bayshore Region

All of Cumberland County and Salem County within the Bay and Ocean Shore Region is designated a Low Growth Region.

3.5.4 Environmental Sensitivity

3.5.4.1 General

Environmental Sensitivity is a composite indication of the general suitability of a land area for development based on three factors -- (a) vegetation, (b) fertile soils, and (c) high percolation wet soils -- that are combined to indicated High, Moderate, or Low Environmental Sensitivity on a site or parts of a site. This section first defines these rankings and then defines specifically the three factors.

3.5.4.2 High Environmental Sensitivity

High Environmental Sensitivity Areas are land areas with: (a) forest vegetation, and (b) high soil productivity or high percolation wet soils which are adjacent to a stream channel (permanent or ephemeral), as defined below.

3.5.4.3 Moderate Environmental Sensitivity

Moderate Environmental Sensitivity Areas are neither High nor Low Environmental Sensitivity Areas.

3.5.4.4 Low Environmental Sensitivity

Low Environmental Sensitivity Areas are areas with: (a) onsite paving or structures or (b) areas with bare earth or herbacious vegetation or early successional meadow with low soil fertility, and low depth to seasonal high water table.

3.5.4.5 Definitions of Environmental Sensitivity Factors

- (a) Forest vegetation is defined as a natural community of trees and shrubs with tree species predominantly those of the late successional stage for the region.
- (b) High soil productivity is defined as soils with Agricultural Capability Class I, as defined by the U.S. Department of Agriculture, Soil Conservation Service in National Cooperative Soil Surveys. Low soil productivity is any soil defined Agricultural Capability Class IV-VIII.
- (c) High percolation wet soils are soils with a depth to seasonal high water table of three feet or less and with textures equal to or coarser than loamy sand within a 24 inch depth from the surface, as indicated in National Cooperative Soil Surveys and includes primarily the following coastal soils series: Atsion (At), Hammonton (HaA), Klej (KmA), and Lakewood (LaA, LeB, and LeC).
- (d) Low depth to seasonal high water table is defined as a depth to seasonal high water table of more than five feet.

3.5.4.6 Rationale

(a) High environmental sensitivity

This ranking is given to land areas where combinations of environmental factors either make the area particularly valuable as a resource or particularly sensitive to impacts, or a combination of the two. Two area types are important. First, a combination of valuable resources exists where forest vegetation coincides with the most productive soils. In addition, undeveloped areas are valuable as open space, for screening, as wildlife habitats, for ground and surface water purification, and as areas that could be used in the future for local food production and/or nutrient absorption. These areas have value both for the

functions they now perform in a developing area and as a limited land bank of the most productive soils. Second, where forest vegetation coincides with a rapid soil percolation rate and a shallow water table, there is a combination of resource value and impact sensitivity factors of special concern where there is an adjacent stream or water body. Areas of high soil percolation and shallow water table are especially sensitive to ground water impacts because the rapid percolation offers little pollutant filtration and the distance to ground water is small. When these areas coincide with forest vegetation, itself a valuable resource in developing areas, the physical and biological processes of tree roots contribute to ground water protection by taking up nutrients and other contaminants. The combination of loss of forest vegetation and degradation of ground water that occurs when these areas are developed raises the level of sensitivity.

(b) Medium Environmental Sensitivity

These are land areas that are neither especially sensitive or insensitive to development.

(c) Low Environmental Sensitivity

This ranking is given to areas where there would be particularly little loss of valued resources or sensitivity impacts of concern if development took place. All paved areas are included, because in these areas most of the adverse impacts associated with development have occurred and further development will minimally diminish natural resources or generate new adverse impacts. The second category of low sensitivity has a low resource value since the soils are infertile and there is little or no vegetation. Since the soils are coarse and have low erosion potential, there is a relatively large distance to ground water and therefore little potential for transferring adverse impacts.

3.5.5 Development Potential

3.5.5.1 General

Development Potential has three levels -- High, Medium and Low -- depending upon the presence or absence of certain development-oriented elements at

or near the site of the proposed development, as defined below. The Development Potential rating applies to the entire site. Different sets of Development Potential criteria are defined below for different categories of development. Also, some of the criteria vary depending upon the regional type. If a specific set of Development Potential criteria is not defined for a particular category or type of development, then the Location Policy assumes a Medium Potential for that category until specific criteria are adopted by DEP. Recommended criteria from an applicant or the public may be considered in the course of the permit application process for a particular development prior to adoption by DEP of specific criteria.

3.5.5.2 Residential Development Potential Criteria

3.5.5.2.1 Scope

The Residential Development category includes housing, retirement communities, hotels, motels, minor commercial facilities of a neighborhood or community scale, and intensive, community scale recreation facilities, such as parks, ball fields, and golf courses.

3.5.5.2.2 High Potential sites meet all of the following criteria:

- (a) Roads - Direct access from the site to an existing paved public road with sufficient capacity to absorb satisfactorily the traffic generated by the proposed development, or in High Growth Regions, direct access to roads which either in their existing state, or with improvements included in the proposed coastal development, provide adequate capacity, or adjacent to roads that have been approved but not built.
- (b) Sewage - Direct access to a wastewater treatment system, including collector sewers and treatment plant, with adequate capacity to treat the sewage from the proposed development, or soils suitable for on-site sewage disposal systems that will meet applicable ground and surface water quality standards, or in High Growth Regions, access to existing or an approved wastewater treatment system.

- (c) Infill - At least 50% of the boundaries of the site are either immediately adjacent to or directly across a public road from sites with existing residential developments or a closely related and associated type of development such as schools (See Figure 11).

3.5.5.3.3 Medium Potential sites do not meet all of the criteria for High Potential sites and do not meet any of the criteria for Low Potential sites.

3.5.5.3.4 Low Potential sites in Low or Moderate Growth Regions meet any one of following criteria:

- No* (a) Roads - Site located more than 1,000 feet from the nearest paved public road,
- Yes* (b) Sewage - Site located more than 1,000 feet from an adequate wastewater treatment system, or soils unsuitable for on-site sewage disposal systems,
- No* (c) Infill - No development is adjacent to the site boundary.

In High Growth Regions, Low Potential sites meet either of the following criteria:

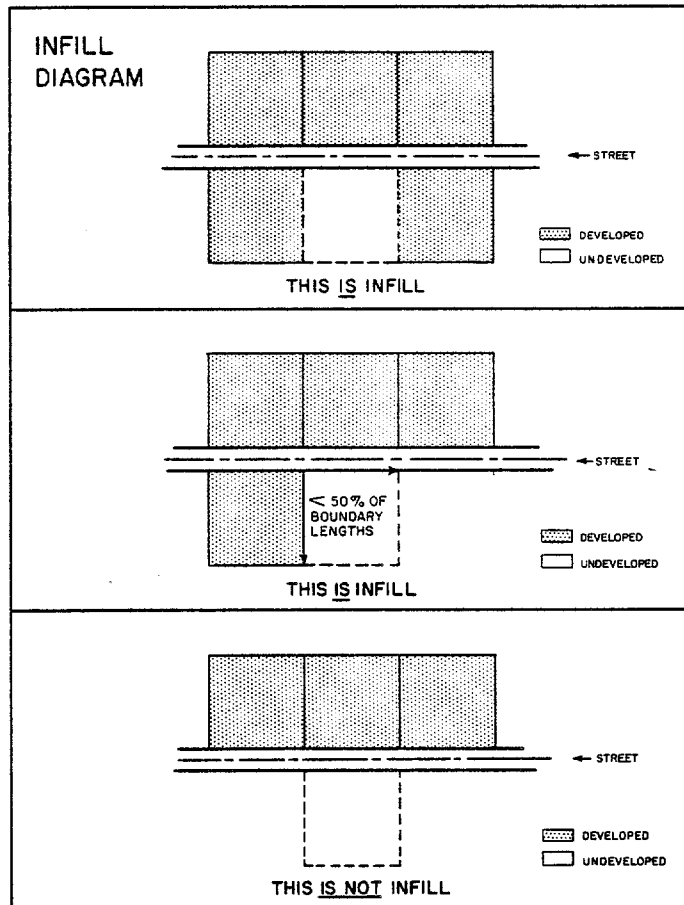
- (a) Roads - Site located more than 1,000 feet from the nearest existing paved or proposed public road, or
- (b) Sewage - Site located more than 1,000 feet from existing or approved adequate wastewater treatment system.
- (c) Infill - No requirement.

3.5.5.3 Major Commercial and Industrial Development Potential Criteria

3.5.5.3.1 Scope

The Major Commercial and Industrial Development category includes all industrial development, warehouses, manufacturing plants, wholesale and major regional shopping centers, and major parking facilities.

Figure 11



3.5.5.3.2 High Potential sites meet all of the following criteria:

- (a) Roads - Direct access from the site to a paved public road with sufficient capacity to absorb satisfactorily the traffic generated by the proposed development, or in High Growth Regions direct access to roads which either in their existing state, or with improvements included in the proposed development, provide adequate capacity.

Sites shall also be within two miles of an existing intersection with a limited access highway, parkway, or expressway, or for industrial development, be a site within one-half mile of a freight rail line with adequate capacity for the needs of the industrial development and with an agreement to build a spur to serve the industrial development.

- (b) Sewage - Direct access to a wastewater treatment system, including collector sewers and treatment plant, with adequate capacity to treat the sewage from the proposed development, or soils suitable for on-site sewage disposal systems that will meet applicable ground and surface water quality standards. In High Growth Regions, where the existing sewage collection or treatment capacity is inadequate and the soils are unsuitable for septic systems, an applicant may include an agreement with a sewage authority to increase service to provide the required capacity. This will qualify the proposal for a high potential rating, provided that secondary impact analysis demonstrates that any development likely to be induced by new sewage capacity above the requirements of the proposal is acceptable.
- (c) Infill - A part of the site boundary shall be either immediately adjacent to, or immediately across a road from,

existing major commercial or industrial development.

3.5.5.3.3 Medium Potential sites do not meet all of the criteria for High Potential sites and do not meet any of the criteria for Low Potential sites.

3.5.5.3.4 Low Potential sites meet any one of the following criteria:

(a) Roads - A site located more than 1,000 feet from the nearest paved public road and more than 5 miles from the nearest intersection with a limited access highway, parkway or expressway, except in High Growth Regions where the site may be located more than 1,000 feet from the nearest paved public road.

(b) Infill - A site located more than one-half mile from the nearest existing commercial or industrial development of more than 20,000 square feet building area.

3.5.5.3 Campground Development Potential Criteria

3.5.5.3.1 Scope

A campground development provides facilities for visitors to enjoy the natural resources of the coast. Typically, this type of development seeks sites somewhat isolated from other development and with access to water, beach, forest and other natural amenities.

3.5.5.3.2 High Potential sites meet all of the following criteria:

(a) Roads - Sites shall have direct access to a paved public or private road of adequate capacity to serve the needs of the development.

(b) Sewage - Direct access to a wastewater treatment system, including collector sewers and treatment plant, with adequate capacity to treat the sewage from the proposed development, or soils suitable for on-site sewage disposal systems that will meet applicable ground and surface water quality standards.

- (c) Region - The region surrounding the site is natural, undeveloped and contains either beaches, streams, or forests, and is readily accessible by foot to campground users.

3.5.5.3.3 Medium Potential sites do not meet all of the criteria for High Potential sites and do not meet any of the criteria for low potential sites.

3.5.5.3.4 Low Potential sites meet any one of the following criteria:

- (a) Roads - More than one-half mile to the nearest public paved road.
- (b) Sewage - More than 1,000 feet to the nearest sewer with sufficient capacity for the needs of the development and soils unsuitable for subsurface sewage disposal systems.
- (c) Region - The region surrounding the site is at least partially developed or is not accessible by foot to campground users.

3.5.5.4 Energy Facility Development Potential Criteria

[This section is reserved pending completion of joint coastal energy facility siting studies by DEP and NJDOE. In the interim, the development potential of energy facilities is assumed to be moderate.]

3.5.5.5 Rationale

High Development Potential sites satisfy the major siting requirements of coastal uses and may be most desirable from the developer's viewpoint. The Development Potential factor also considers the extent to which the development of a site would carry out the basic coastal policy to concentrate the pattern of development by serving as infill to existing patterns of development, or whether the proposed development site would extend or scatter the pattern of development. DEP recognizes that other factors may be important in siting decisions from a developer's perspective. Use of the development potential factor stresses the advantages of existing settled areas and emphasizes the disadvantages of sparsely settled areas in determining the acceptability of locations. This factor promotes efficient capital investment in public infrastructure and community facilities, as well as conservation of open space.

3.5.6 Definition of Acceptable Intensity of Development

3.5.6.1 General

The Location Policy for Land Areas is expressed in terms of three acceptable intensities of development of the site or parts of a site, as determined by consulting the Land Acceptability Tables for the appropriate region. The acceptable intensities of development are expressed in terms of maximum and minimum acceptable percentages of the site, or of different parts of a site, that may be, or must be used for structures, herbs and shrubs, or forests. Permeable paving provides a 10% bonus over the permitted maximum level of structures and impervious paving.

3.5.6.2 High Intensity Development

This level of development permits extensive development of paving and structures. Typically, if analysis showed that most of a large area was acceptable for intensive development, the landscape that would be produced would be urban or heavily industrialized. The photomaps below show examples of typical High Intensity Development landscapes.



For parts of a site classified for High Intensity Development, the acceptable range of development is:

High Intensity Development	Structures and Impervious Paving	Permeable Paving	Herb and Shrub	Forest
Maximum	80%	90%	95%	-
Minimum	-	-	5%	5%

(Dash symbol (-) indicates no maximum or minimum)

This range allows most of each part of the site in this category to be developed with structures or paving, while preserving at least a small minimum of open space in herbs, shrubs and trees for microclimate control, aquifer recharge and visual screening. A developer planning to use pervious paving can, as a bonus, develop a larger percentage of the area.

The required percentage of forest shall either be preserved, or, if there is no forest on the site, shall be planted. Tree species shall be those of the native mature forest, and saplings shall be at least 6 feet high at a minimum density of 1 per 100 sq. ft. Forest areas shall be protected from trampling.

Shrubs and herbs shall be suitable to the substrate conditions. In the acid sandy soils common in the coastal area, this requirement excludes many species common in more inland areas.

High Intensity Development must be compatible in density with its surrounding region.

3.5.6.3 Moderate Intensity Development

At this level of development, between 30 and 40 percent of an area can be developed in paving and structures. Typically, if analysis showed that most of a large area was acceptable for moderate intensity development, the landscape that would be produced would be suburban. The photomaps below show examples of Moderate Intensity Development landscapes.





For parts of a site classified for moderate intensity development, the acceptable range of development elements is as follows:

Moderate Intensity Development	Structures and Impervious Paving	Permeable Paving	Herb and Shrub	Forest
Maximum	30%	40%	80%	-
Minimum	-	-	-	20%

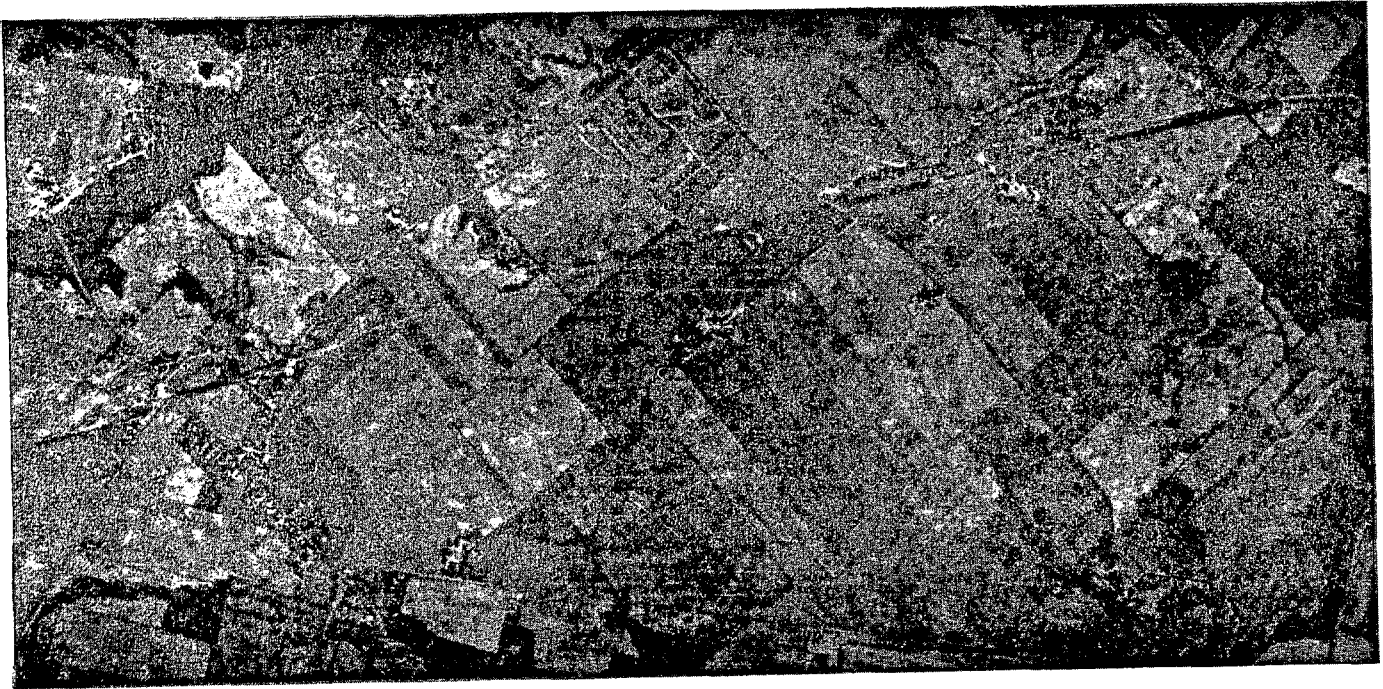
This range allows, for example, development of residential subdivisions of up to approximately 4 dwelling units per acre or, if the porous paving allowance is used and the dwellings are clustered, up to approximately 8 dwelling units per acre.

A minimum 20 percent of forest is required to ensure that forest vegetation is preserved or planted for microclimate control, energy conservation, soil stabilization, aquifer recharge and wildlife habitat. Where the site has no existing forest, this percentage shall be met by planting native forest species of the mature forest. It is not intended that this should be costly planting. Whip saplings (less than 3 feet high) at a density of 1 per 200 square feet are acceptable. The forested areas shall be protected from trampling. The herbs and shrubs shall be adapted to the environmental conditions of the site to reduce the adverse impacts associated with extensive liming, fertilization and irrigation. The acid sandy soils common in coastal areas exclude many species common in inland areas, including most lawn grasses.

3.5.6.4 Low Intensity Development

At this level of development intensity, the existing conditions of the site are not to be disturbed, with removal of vegetation for clearing or maintenance

purposes, and no grading, paving or structures. Typically the landscape of Low Intensity Development areas would be rural, agricultural, or forest, as shown below in the photomaps.



3.5.7 Land Acceptability Tables

3.5.7.1 General

The Land Acceptability Tables, one for each of the three regional growth types, indicate the acceptable intensity of development of a site or parts of a site, for each of the nine possible combinations of Environmental Sensitivity and Development Potential factors in each table. Since Development Potential applies to an entire site, each site can have a maximum of three different levels of acceptable intensity, if it has three areas with different levels of Environmental Sensitivity.

3.5.7.2 Land Acceptability Table: High Growth Region

(Northern, Central, and Absecon-Somers Point Regions)

DEVELOPMENT POTENTIAL				ENVIRONMENTAL SENSITIVITY			ACCEPTABLE DEVELOPMENT INTENSITY		
Line Number	High	Medium	Low	Low	Medium	High	High Intensity	Moderate Intensity	Low Intensity
1	X			X			X		
2	X				X		X		
3	X					X		X	
4		X		X			X		
5		X			X		X		
6		X				X			X
7			X	X					X
8			X		X				X
9			X			X			X

3.5.7.3 Land Acceptability Table: Moderate Growth Region

(Southern, Western Ocean, and Barnegat Corridor Regions)

DEVELOPMENT POTENTIAL				ENVIRONMENTAL SENSITIVITY			ACCEPTABLE DEVELOPMENT INTENSITY		
Line Number	High	Medium	Low	Low	Medium	High	High Intensity	Moderate Intensity	Low Intensity
1	X			X			X		
2	X				X		X		
3	X					X		X	
4		X		X				X	
5		X			X			X	
6		X				X			X
7			X	X					X
8			X		X				X
9			X			X			X

3.5.7.4 Land Acceptability Table: Low Growth Region

(Mullica-Southern Ocean, Great Egg Harbor River Basin, and Delaware Bayshore Regions)

DEVELOPMENT POTENTIAL				ENVIRONMENTAL SENSITIVITY			ACCEPTABLE DEVELOPMENT INTENSITY		
Line Number	High	Medium	Low	Low	Medium	High	High Intensity	Moderate Intensity	Low Intensity
1	X			X				X	
2	X				X			X	
3	X					X			X
4		X		X					X
5		X			X				X
6		X				X			X
7			X	X					X
8			X		X				X
9			X			X			X

3.5.7.5 Rationale

The Land Acceptability Tables represent a striking of balances between the environmental sensitivity and development potential of sites, and balances among regions, in order to indicate both which land areas are appropriate locations for development and how the design of the development should use the land features of the site.

Environmental Sensitivity is weighed more heavily in Low Growth Regions than in High Growth Regions. Development Potential is weighed more heavily in High Growth Regions.

The ten regions of the coast are divided into three regional growth types as follows: High Growth: Northern, Central (excluding Western Ocean County and Barnegat Corridor) and Absecon-Somers Point; Medium Growth: Western Ocean County, Barnegat Corridor, and Southern; Low Growth: Delaware Bayshore, Mullica-Southern Ocean and Great Egg Harbor River Basin.

The definition and rationale for the geographic distribution and general growth policies are discussed in Chapter Three. These general growth policies are the basis for the distribution of the development acceptability. The three land acceptability tables show that in high growth areas, development potential is favored to promote growth, and in low growth areas environmental sensitivity is favored to promote conservation. This general policy affects the tables as follows:

High Growth Regions (Northern, Central, and Absecon-Somers Point)

General

The general policy in these regions is to promote growth through infill and lightly limited extension. In the Northern and Absecon areas, most growth will take place in high potential infill sites because of the pattern and density of existing development. In the eastern Central region, growth may occur through both infill and extension. The question here is how much to limit the extension and scattering of development so that orderly growth is promoted that does not induce sprawl without unreasonably interfering with the sequence in which sites are developed.

In this high growth category, the criteria of both high and low development potential are changed to make it easier to obtain a high or medium ranking. For example, proposals that have adequate access to roads and sewers that have been approved but not built may qualify for high development potential status. Proposals that are within 1,000' of roads and sewers that have been approved but are not built qualify for medium development potential. In these areas of planned growth, the requirement that a site must be infill to qualify for medium development potential does not apply. This definition identifies areas where growth is currently planned and then assigns acceptable development intensities as if the infrastructure were in place, which allows non-sequential development. The definition of levels of environmental sensitivity is the same throughout the tables.

Lines 1, 2, 3 In these lines development potential is high. Basically these are infill sites. In a high growth area these are prime development areas, satisfying the policy of concentration, so development potential is weighed heavily.

Line 1. There is no conflict in this line. Sites with high development potential and low environmental sensitivity are suitable for any intensity of development compatible with their surroundings.

Line 2. There is little conflict in this line. In high growth areas the high development potential overrides medium environmental sensitivity. Impacts can generally be contained by mitigation. Development of any intensity compatible with the surroundings is therefore appropriate to promote growth.

Line 3. This is a line of high conflict. Development in these areas encroaches upon fertile forests and forested areas around streams with wet high percolation soils. However, because of the high potential and high growth designations, moderate intensity development is considered acceptable to promote growth. Development on sites, or parts of sites, that are included on this line shall minimize disturbance to the maximum extent practicable and shall distribute the limited areas of structures and paving acceptable in the moderate intensity class as much as possible in areas with a deeper water table and less valuable forest. Mitigation measures to reduce ground and surface water impacts are essential.

Lines 4, 5, 6 In these three lines the development potential moves to medium. In high growth areas development potential is also weighed heavily, though less than in the first three lines. The balance is designed to conserve the limited areas of high sensitivity that occur in high growth regions as open space for surrounding developments.

Line 4. The environmental sensitivity is low and development of any compatible intensity is appropriate to promote growth.

Line 5. Development potential overrides the moderate environmental sensitivity to promote growth. The acceptable development intensity is high, rather than medium, because the resource loss is moderate and, to promote clustering, intensive growth is desirable. The open space necessary in a developing high growth region is better provided in larger contiguous areas which may also conserve high sensitivity land types, than dispersed through lower density development in moderate sensitivity areas.

Line 6. This is a line of conflict. Here high environmental sensitivity overrides development potential. Almost all the high sensitivity areas in the high growth regions are limited areas of forested Atsion, Lakewood or Klej soils adjacent to streams and water bodies. In these moderate development potential growth extension areas, the preservation of these water related areas is desirable for a number of reasons.

- They are linked to the water's edge corridors and so many become parks and wildlife habitats linked to an integrated non vehicular movement system providing recreation and diversity for surrounding areas of development.
- They conserve the most valuable and sensitive land areas of a developing region improving water quality and adding to the mitigating effects of the water's edge areas.
- Development of these areas is relatively difficult and expensive: vegetation must be cleared, filling is necessary for foundations and paving and special mitigation measures are necessary for the release of sewage and runoff effluents.

Conservation therefore benefits both the community and the environment.

Lines 7, 8, 9 In these three lines, development potential is low, sites are distant from existing or approved roads and sewers, and soils are unsuitable for septic systems. The criteria for low development potential in high growth areas allows scattered non-sequential development in areas where growth is planned. Environmental sensitivity must be weighed more heavily in these three lines to prevent sprawl into unsewered areas where soils are unsuitable for septic systems. This is particularly common in the sandy soils of high growth regions.

Line 7. This is the only line of these three where conflict arises between the policy of promoting development in high growth areas and the policy of discouraging sprawl. The criteria for low potential in high growth areas are designed more narrowly than in other areas to allow most sites to qualify for medium development potential. Environmental sensitivity overrides development potential in this line to restrict scattered development in unsewered sandy soils.

Lines 8 & 9 In these two lines, environmental sensitivity overrides development potential to prevent scattered development into areas of low potential where resource loss and impacts are of concern.

Medium Growth Areas (Western Ocean County, Barnegat Corridor, and Southern)

General

The general policy in these areas is to promote nodal growth based on existing centers of development and to limit ribbon and scattered development along minor roads. It is desirable in these areas to promote settlement patterns that could be served by public transportation systems, particularly buses.

Because of this policy, development acceptability is more limited in areas of extension. Environmental sensitivity is weighed more heavily than in high growth areas. The criteria for inclusion in high and medium development categories are also more rigorous for this reason. Sites must be adjacent to existing roads and sewers to qualify for high potential and adjacent to existing developed sites and within 1,000 feet of existing roads and sewers to qualify for medium potential. These more rigorous standards are set to increase the limitations to sprawl in moderate growth areas.

Lines 1, 2, 3 In these three lines, development potential is high, sites infill or round off, and the necessary infrastructure is available. These are the nodes where growth is to be promoted. Development potential is weighed more heavily than environmental sensitivity.

Lines 1 & 2 Here development potential overrides environmental sensitivity. The acceptable development intensity is kept high in both lines to promote clustering in the growth nodes.

Line 3. This is a line of conflict, with development encroaching upon highly sensitive areas. In order to promote concentration at nodes, development potential partly overrides environmental sensitivity to permit moderate intensity development. Developers building on sites or parts of sites that are regulated by this line shall place structures and paving in a way that avoids the most sensitive parts of the area as much as possible and mitigate impacts according to the Resource Policies.

Lines 4, 5, 6 In these three lines, development potential is medium, sites are extensions of existing development and within moderate distances of roads and sewers. If development acceptability is moderate or high, ribbon development along roads is possible conflicting with the policy of nodal development.

In moderate growth regions in the south, extensive land areas fall within the Farmland Conservation Area. In western Ocean County, there are few land areas adjacent to existing roads. Little ribbon development is therefore possible. To allow limited growth, development potential partly overrides environmental sensitivity in all but the most sensitive areas to allow moderate intensity development.

Lines 4 & 5 Here moderate intensity development is acceptable to allow very limited extensions of existing roadside developments.

Line 6. Here the most sensitive areas are conserved from ribbon development both to prevent sprawl in moderate growth areas and to protect valued and sensitive land areas.

Lines 7, 8, 9 In these areas development potential is low, sites are distant from roads, and sewers and soils are unsuitable for septic tanks. To prevent scattered sprawl development in limited growth areas, the acceptable intensity of development is low.

Low Growth Areas (Delaware Bayshore, Mullica-Southern Ocean Great Egg Harbor River Basin)

General

The general policy in these areas is that conservation is more important than development and environmental sensitivity is therefore weighed more heavily than other areas. In the Delaware Bayshore, the concern is the conservation of agricultural land. In the Mullica-Southern Ocean and Great Egg Harbor River Basin regions the concern is conservation of the natural environment. The spread of development must, therefore, be highly restricted. In order to satisfy these policies, development has been limited to infilling and rounding off in areas of moderate and low environmental sensitivity.

Lines 1 & 2 These lines show moderate intensity development acceptable in infill sites. This allows a limited amount of growth within existing settlements especially where development had leapfrogged in the past leaving pockets of undeveloped land.

Lines 3 to 9 In these lines development is restricted in low growth areas either because the lower development potential implies ribbon or scattered sprawl in conflict with the subregional growth policy or, to conserve the environmentally sensitive areas which are more valuable in low growth areas than elsewhere.

3.5.8 Determination of Location Acceptability

The location acceptability of a coastal development proposed for Land Area is determined by comparing the site plan of the proposed development, and the proposed percentages of the site to be used for structures, paving, herb and shrub vegetation, and forest vegetation, with the acceptable minimum and maximum percentages of the site to be used for structures, paving, herb and shrub vegetation, and forest vegetation, as specified in the three levels of acceptable development intensity that apply to the site or parts of the site according to the Land Acceptability Tables. The percentages of the proposed development's site plan shall conform with the percentages determined using the Land Acceptability Tables, to the maximum extent practicable.

3.6 Policy on Location of Linear Development

A linear development, such as but not limited to a road, sewer line, or offshore pipeline, that must connect two points to function shall comply with the specific location policies to determine the most acceptable route, to the maximum extent practicable. If part of the proposed alignment of a linear development is found to be unacceptable under the

specific location policies, that alignment (perhaps not the least possible distance) may nonetheless be acceptable, provided the following conditions are met:

- (a) there is no prudent or feasible alternative alignment which would have less impact on sensitive areas,
- (b) there will be no permanent or long term loss of unique or irreplaceable areas,
- (c) appropriate measures will be used to mitigate adverse environmental impacts to the maximum extent feasible, such as restoration of disturbed vegetation, habitats, and land and water features,
- (d) the alignment is located on or in existing transportation corridors and alignments, to the maximum extent practicable.

3.7 General Location Policy

A location may be acceptable for development under the specific location policies above, but the DEP may reject or conditionally approve the proposed development of the location as reasonably necessary to:

- (a) promote the public health, safety, and welfare,
- (b) protect public and private property, wildlife and marine fisheries, and
- (c) preserve, protect and enhance the natural environment.

4.0 USE POLICIES

- 4.1 Purpose
- 4.2 Housing
- 4.3 Resort-Recreation
- 4.4 Energy
- 4.5 Public Facility
- 4.6 Industry-Commerce
- 4.7 Ports
- 4.8 Coastal Engineering

4.1 Purpose

Many types of development seek locations in the coastal zone. The second stage in the screening process of the Coastal Resource and Development Policies spells out a set of policies for particular uses of coastal resources. The Use Policies often reinforce and highlight Location Policies.

4.2 Housing Use Policies

4.2.1 Definition

Housing in the Bay and Ocean Shore Segment includes both large and small developments of single family detached houses, multi-family units with apartments or town houses, high rise buildings and mixed use developments. The Housing Policies which follow will apply to all proposed housing on wetlands or riparian lands and to housing projects of 25 or more units in other parts of the Bay and Ocean Shore Segment.

4.2.2 Water's Edge Housing

Policy

New housing development is prohibited in Water Areas and the Natural Water's Edge. The stabilization of existing lagoons through revegetation, bulkheading or other means is conditionally acceptable provided that the conditions of the Retained Water's Edge and Filled Water's Edge are satisfied.

Rationale

Housing is not dependent on water access, and does not qualify for any exceptions to the policy of restricting development in sensitive areas. Housing in these areas would require new lagoons, dredging, and filling.

4.2.3 Cluster Development

Policy

Housing developments that cluster dwelling units on the areas of sites most suitable for development are encouraged.

Rationale

Clustering is defined as an increase of net density realized by reducing the size of private lots and retaining or increasing the gross density of a project. The open space that is produced by clustering can be returned to the community as common open space. The location policies define certain sensitive areas where development is limited. When such areas are present on a site, the acceptable gross density may have to be reduced, unless the net density can be increased by clustering. Where municipal zoning requires minimum lot sizes that preclude clustering, applicants are encouraged to seek local approval, through new ordinances and/or variances, to maintain the permissible gross density by clustering. DEP will aid this endeavor by providing a rationale and testimony, as appropriate, especially for the protection of sensitive areas. Cluster developments lessen the impact of construction by preserving valued soil, open space, vegetation and aquifer recharge resources. Some cluster developments also increase insulation and reduce energy consumption due to shared walls between units.

4.2.4 Residential Mix

Policy

Housing development that provides for a mix of dwelling types and for persons of different age and income groups is encouraged.

Rationale

The quality of life improves when residential areas provide a diversity of dwelling types, at different cost levels, so that people of different ages, life styles, and incomes can live together, rather than the traditional pattern of highly stratified development that has taken place in the process of suburbanization of the coastal zone. At the same, the coastal region already provides specialized dwelling types for particular groups, such as senior citizens.

4.2.5 Fair Share Housing

Policy

Housing developments which contribute to a municipality's efforts to accommodate its fair share of low and moderate income housing are encouraged. Housing developments shall provide least cost housing where feasible.

Rationale

In March 1975, the New Jersey Supreme Court, in Southern Burlington County NAACP v. The Township of Mount Laurel 67 N.J. 151 (1975) declared that a municipality must "presumptively make realistically possible an appropriate variety and choice of housing ... at least to the extent of the municipality's fair share of the present and prospective regional need ...". In April 1976, the Governor issued Executive Order No. 35, (amended by Executive Order No. 46 of December 1976) which directed the Division of State and Regional Planning in the Department of Community Affairs to prepare a statewide fair share housing allocation plan. Developments in the coastal zone that contribute to meeting defined municipal fair shares are encouraged.

4.2.6

Barrier Free Design

Policy

Residential developments without barrier free design in public areas are prohibited, and multi-family developments of more than 250 units without barrier free design in some of the units are discouraged. Further, barrier free design must be included in all buildings and spaces used by the general public according to State Law (N.J.S.A. 52:32-4). Barrier free design is encouraged in units of private residential developments, especially at grade changes in public space within those private developments.

Rationale

Housing in the coastal zone should be available to all people, including those whose physical handicaps have precluded such accommodation in the past. "Barrier Free Design Regulation", published by the State of New Jersey, Department of the Treasury, Division of Building and Construction on July 15, 1977, defines the barrier free design requirements of public buildings.

4.2.7

Housing and Public Transportation

Policy

The development of housing at locations and densities that contribute to the feasibility of public transportation is encouraged.

Rationale

Public health and welfare concerns about air quality, as well as the necessity to limit energy consumption, require that public policies and decisions encourage public transportation.

4.2.8 Housing Rehabilitation

Policy

Residential development involving the demolition and redevelopment of existing structures is discouraged, unless rehabilitation of the existing structures is demonstrated to be impractical, infeasible, and, contrary to the public interest.

Rationale

The preservation, restoration, or rehabilitation of existing structures is preferable to demolition and redevelopment in order to save structures and neighborhoods with historic and aesthetic interest. Rehabilitation can often be more labor intensive than construction of a new building which means that more jobs are created and less energy is consumed through the production of new building materials. Applicants who build on developed sites must demonstrate that existing structures cannot be rehabilitated.

4.2.9 High Rise Housing

Policy

All high rise housing developments, defined as structures for residential use more than six (6) stories or more than sixty (60) feet from grade, are encouraged to locate in areas of existing high density, high-rise and/or intense settlements. High rise housing is acceptable subject to the following conditions:

- (a) high-rise structures within the view of coastal waters must be separated from coastal waters by at least one public road or an equivalent park distance,
- (b) the largest dimension of any high-rise structure must be oriented perpendicular to the beach or coastal waters,
- (c) the proposed structure must not block the view of dunes, beaches, horizons, inlets, bays, or oceans that are currently enjoyed from existing residential structures, public roads or pathways,
- (d) the structure must not overshadow beaches between May and October,
- (e) the proposed structure must be in character with the surrounding transitional heights and residential densities, or be in character with a comprehensive development scheme requiring an increase in height and density,
- (f) the proposed structure must not have an adverse impact on traffic and air quality.

Rationale

Considerable recent residential development along the coast, from the Palisades to the barrier islands, has taken the form of high-rise, high-density towers. While conserving of land, some high-rise structures represent a visual intrusion, cause adverse traffic impacts, and casts shadows on beaches. Under CAFRA, DEP has approved several high-rise structures in Atlantic City and denied two CAFRA applications for high-rise proposals, one in downtown Toms River (Ocean County) and another in Brigantine (Atlantic County). This policy strikes a balance, between banning high-rises and allowing tall residential structures anywhere in the coastal zone.

4.2.10 Large Scale Planned Residential Development

Policy

Large scale, free-standing planned residential developments, such as planned unit developments, shall be evaluated on a case-by-case basis to determine the extent that the proposed development carries out the basic coastal policy to concentrate the pattern of development, contributes to regional housing needs, and does not cause significant adverse secondary impacts.

Rationale

Large planned communities offer advantages of scale in creating new modes of development and providing housing. Such large projects may, however, detract from or alter appropriate regional patterns of development.

4.3 Resort/Recreational Use Policies

4.3.1 Definition

Resort-recreation uses include the wide range of small and large developments attracted to and often dependent upon locations along the coast, particularly in the Bay and Ocean Shore Segment. Resort-recreation uses include hotels, motels, marinas, boating facilities, campgrounds, amusement piers, parks and recreational structures such as bath houses and fishing piers.

4.3.2 Recreation Priority

Policy

Resort/Recreation Uses shall have priority in the Bay and Ocean Shore Segment over all other uses, with highest priority reserved for those uses that serve a greater rather than a lesser number of people, and those uses that provide facilities for people of all ages and for people with physical handicaps.

Rationale

The national and state interests in recreation are clearly indicated in the coastal economy and are essential for the quality of life. The coastal environment provides numerous opportunities for recreation which should be expanded by public policy and action, including priority setting.

4.3.3 New Recreation Areas

Policy

Recreation areas shall be incorporated in the design of all residential and industrial development, to the maximum extent practicable.

Rationale

The recent national recognition that recreation is physically and mentally important for people of all ages should be accommodated by new development. Recreational facilities are important near places of employment, as well as in residential areas, since many people only have opportunities for recreation during the working day.

4.3.4 Public Access

Policy

All public and private resort-recreation development adjacent to coastal waters must provide for reasonable public access to the shorefront.

Rationale

Shorefront areas maintained and protected by state tax revenues, as well as by local funds, must be made available to all state residents and visitors. Access includes visual access to the shorefront, direct physical access, and indirect physical access such as provision of transportation and supporting facilities.

4.3.5 Hotel-Motel Developments

Policy

New, expanded or improved hotel-motel developments are conditionally acceptable in existing resort-oriented areas, provided that the development: (a) complies with the high-rise housing policy, if appropriate, (b) promotes public recreational uses of the coast, and (c) is compatible in scale, site design, and architecture with surrounding development. Hotel-motel developments are discouraged in other areas. Resort areas are existing concentrations of development that serve visitors to the coastal zone.

Rationale

Hotels and motels enable New Jersey residents and tourists to visit the coast. They thereby support the tourist economy of the area. The buildings must be located, however, so they do not harm or threaten the resources which attract people to the coast.

4.3.6 Hotel-Casino Development

Policy

Hotel-casino development in Atlantic City shall be located in the city's traditional resort area (along the Boardwalk), to the maximum extent practicable. Hotel-casino development is discouraged in existing residential areas and in areas where access by public transportation between the proposed hotel-casino and the Boardwalk is limited. Hotel-casino development shall comply with the high-rise housing policy. Hotel-casino development and new residential development are encouraged in Atlantic City to ensure that the objectives of the 1976 constitutional referendum on casino gambling, including the stimulation of new construction and the revitalization of Atlantic City and its region, are achieved. The policies of the program shall be interpreted consistent with these objectives.

Rationale:

This hotel-casino location policy serves several purposes: (1) protecting Atlantic City's existing diverse neighborhoods, (2) facilitating public transportation solutions (such as bus, jitney, park-and-ride, or rail) to the problem of increased access to and in Atlantic City, (3) promoting pedestrian movements, (4) reducing pressure on vehicular systems, and (5) preserving the historic and low-rise residential character of the Gardiner's Basin and Inlet area.

4.3.7 Marinas

Policy.

New or expanded marinas for recreational boating are conditionally acceptable if:

- (a) the demonstrated regional demand for recreational boating facilities cannot be met by the upgrading or expansion of existing marinas, and
- (b) the proposed marina includes the development of an appropriate mix of dry storage areas, public launching facilities, and berthing spaces, depending upon the site conditions and
- (c) the proposed marina provides adequate pump out stations for wastewater disposal from boats in a manner consistent with federal and state water quality laws and regulations.

New marinas that provide primarily for sail and oar boating are encouraged.

Expansions of existing marinas shall be encouraged by limiting non-water dependent land uses that preclude support facilities for boating.

Recreational boating facilities are acceptable provided that they are designed and located in order to cause minimal feasible interference with the commercial boating industry.

Rationale

The location of marinas requires the use of sensitive lands at the waters edge which exist in only limited supply and are also valued for other activities. The policies aim to ensure that the area devoted to marinas is fully and efficiently utilized to keep the size of the area required to a minimum. Facilities for sail and oar boating are encouraged because such boats consume less energy and have less of a polluting impact on the water than motor boats.

4.3.8

Amusement Piers, Parks and Boardwalks

Policy

New amusement piers are prohibited, except in areas with riparian grants where they are discouraged. Expanded or extended amusement piers, parks, and boardwalks at the water's edge or in the water and the on-site improvement or repair of existing amusement piers, parks and boardwalk areas are discouraged unless the proposed development meets the following conditions:

- (a) the amusement pier, parks, or boardwalk does not unreasonably conflict with aesthetic values, ocean views, other beach uses, and wildlife functions, and
- (b) public access to the shorefront is not limited, and
- (c) the surrounding community can adequately handle the activity and uses to be generated by the proposed development.

Rationale

Amusement piers, amusement parks, and boardwalks form an essential element of the resort and recreational character of some of the communities fronting on the Atlantic Ocean. The carnival atmosphere of these areas provides fun and excitement

annually for hundreds of thousands of people. However, new piers for amusement purposes are an inappropriate use of scarce coastal resources, due to the natural hazard of the desired ocean location and the importance of maintaining the visual quality of the oceanfront. Also, amusement parks are not a water-dependent use; these facilities may be located inland on less sensitive land and water features.

4.4 Energy Use Policies

4.4.1 General Definition of Energy Uses

Energy uses include facilities, plants or operations which produce, convert, distribute, or store energy. Under the Department of Energy Act, the term "energy facility" does not include an operation conducted by a retail dealer.

4.4.2 General Energy Facility Siting Procedure

Policy

- (a) The acceptability of all proposed new or expanded coastal energy facilities shall be determined by a review process that includes both NJDEP and the New Jersey Department of Energy (N.J.S.A. 52:27F-1 et seq.) according to the procedures defined in the Memorandum of Understanding between NJDEP and NJDOE Coordination of Permit Reviews.
- (b) NJDOE will determine the need for future coastal energy facilities according to three basic standards. NJDOE will submit an Energy Report to DEP with its determination of the need for a coastal energy facility based on three required findings:
 - (i) the existing sources of supply will not be adequate to meet future levels of demand, including careful consideration of the potential effects of conservation,
 - (ii) that no better technological alternative exists to meet future levels of demand,
 - (iii) that no better locational alternative to the proposed site exists.
- (c) NJDEP will determine the acceptability of coastal energy facilities using the Coastal Resource and Development Policies.
- (d) If NJDOE has submitted an Energy Report to DEP, the DEP decision document shall refer to the NJDOE Energy Report and indicate DEP's reasons for differences, if any, between the DEP decision and the NJDOE Energy Report.

- (e) Where NJDOE and NJDEP disagree on the acceptability of a specific proposed coastal energy facility (for example, on a specific proposed site for one type of energy facility), the disputed decision shall, in accord with state law, be submitted to the State's Energy Facility Review Board for final administrative action.

Rationale

NJDOE and NJDEP share responsibility for carrying out the energy facility siting, planning and project review elements of the New Jersey Coastal Management Program. The State Energy Master Plan and its appendices, the Coastal Resource and Development Policies, and the Memorandum of Understanding between NJDEP and NJDOE provide a clear framework for decision-making by these two State agencies on the review of proposed facilities, as well as a basis for continued consultation and cooperative planning.

4.4.3

Outer Continental Shelf (OCS) Oil and Gas Exploration and Development

Policy

Rapid exploration of the Mid-Atlantic, North Atlantic, and other offshore areas with potential reserves of crude oil and natural gas is encouraged, as long as all related onshore activities do not conflict with existing land uses and are conducted in accordance with the policies of the program. Onshore activities for development and production of offshore hydrocarbons shall be carried out according to the specific energy facility policies of this section.

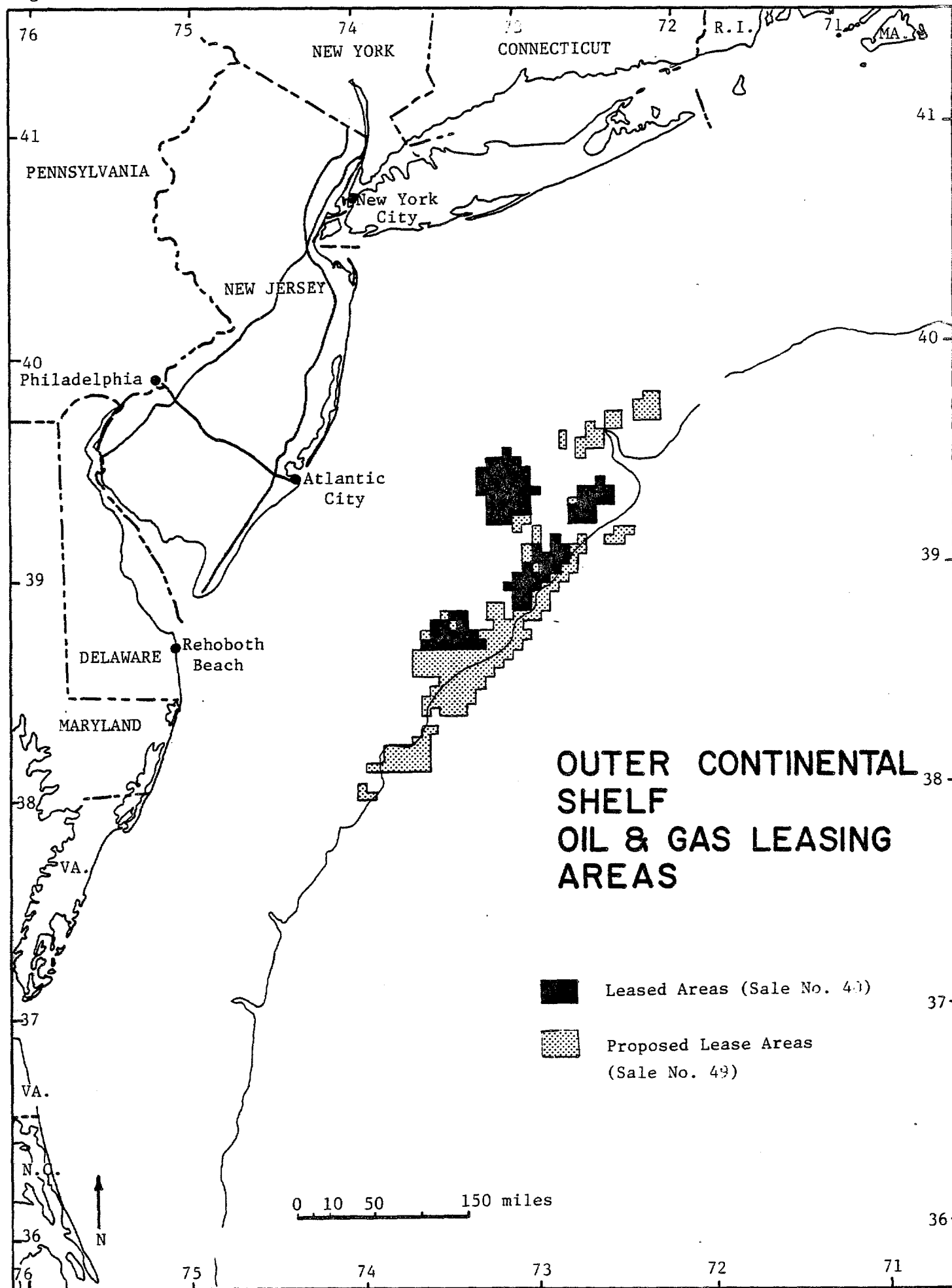
Rationale

The decision of the U.S. Department of Interior to lease offshore tracts for crude oil and natural gas exploration presents New Jersey with new onshore and marine-related environmental problems and opportunities (See Figure 12). New Jersey supports offshore exploration, recognizing the national need to identify new energy supplies, as long as this new industrial activity does not conflict with the State's second most important industry, tourism, which depends upon the maintenance of a high quality coastal environment.

In the event that commercial finds of oil and gas are made off the Jersey coast, there may be considerable building activity during the initial years while the industry prepares for production. This activity will diminish once production gets underway.

To minimize the impact of needed facilities, DEP encourages the location of OCS-related facilities in developed areas where the infrastructure and labor market already exist to absorb such activity.

Figure 12



During the construction of onshore oil and gas facilities, there may be an influx to the coastal zone of the marine service and engineering industry. This service sector office-oriented activity will be encouraged to locate in urban centers, such as Atlantic City, which because of its proximity to OCS Lease Sale 40 has already been selected by industry as the take-off point for helicopters to the offshore rigs and platforms. Also, the U.S. Geological Survey (U.S.G.S.) has located its mid-Atlantic field office in Atlantic City to supervise and monitor offshore operations.

4.4.4 Onshore Support Bases

Policy

New or expanded onshore support bases and marine terminals to support offshore oil and gas exploration, development, and production (including facilities for work boats, crew boats, pipeline barges, helicopters, and limited, short-term storage facilities), are encouraged at locations in built-up urban areas of the state outside of the Bay and Ocean Shore Segment and discouraged in less developed areas of the coastal zone. Preferable locations for water-dependent onshore support bases include urban waterfront areas, where onshore adverse physical, economic, and institutional impacts will be less than the impacts likely to be placed on less industrially developed areas which are more dependent upon tourism and the resort industry. Small facilities for storing oil spill containment and cleanup equipment for offshore operations will, however, be acceptable within the Bay and Ocean Shore Segment where such a location would facilitate and expedite offshore emergency operations.

Rationale

Offshore exploratory activity began off New Jersey in the Baltimore Canyon on March 29, 1978. If the exploratory drilling is successful, the offshore oil and gas industry is likely to seek onshore support bases closer to the offshore tracts than the present temporary bases established by the major oil, gas, and offshore service and supply companies at Davisville, Rhode Island. Because of shallow inlets in the Bay and Ocean Shore Segment, few locations in this part of New Jersey meet industry's siting requirements. This policy recognizes that the New Jersey coast is favored by proximity to the offshore tracts as a site for onshore staging bases, and carries out the basic policy to concentrate rather than disperse industrial development in the coastal zone.

4.7.5 Platform Fabrication Yards and Module Construction

Policy

Platform fabrication yards and module construction will be encouraged in built-up areas of the coastal zone, outside of the Bay and Ocean Shore Segment which have the requisite acreage, adequate industrial infrastructure, ready access to

the open sea, and adequate water depth, and where the operation of such a yard would not alter existing recreational uses of the ocean and waterways in the areas.

Rationale

If offshore exploration proves successful, the development phase of OCS activity in the Mid-Atlantic may require one or more sites for constructing the steel platforms used offshore, in addition to the platform construction yard tentatively planned for Cape Charles in Virginia. Platform yards typically do not have the adverse air and water quality impacts associated with some other industries. However, platform construction yards require large tracts of land and are labor intensive. The operation of a platform construction yard could severely disrupt the economy and social fabric at less developed communities and areas. For these reasons, offshore platform construction yards are encouraged to seek locations in the already developed areas of the New Jersey coast. However, the height restrictions of bridges on the Delaware River and other New Jersey waterways may sharply limit the suitability of sites in New Jersey. Existing underutilized shipyards may be used, however, for platform module construction.

4.4.6 Repair and Maintenance Facilities

Policy

Repair and maintenance facilities for vessels and equipment for offshore activities will be encouraged, particularly at underutilized existing shipyards within the Bay and Ocean Shore Segment.

Rationale

Existing small shipyards within the Bay and Ocean Shore Region, such as these along the Maurice River in Cumberland County, may serve valuable repair and maintenance support functions for offshore operations without requiring construction of new shipyards.

4.4.7 Pipe Coating Yards

Policy

Pipe coating yards are discouraged in the Bay and Ocean Shore Segment and encouraged along the Delaware River and in the area under the jurisdiction of the Port Authority of New York and New Jersey, in such communities as Middlesex, Union, Essex, and Hudson Counties.

Rationale

Pipe coating yards constitute an industrial activity that is generally incompatible with the suburban and rural character of the Bay and Ocean Shore Region. Further, pipe coating yards typically require 100-150 acres, and wharf space with a preferred depth at the wharf of 20 to 30 feet. These siting

requirements suggest that highly industrial port areas, located outside of the Bay and Ocean Shore Region, are preferred locations.

4.4.8

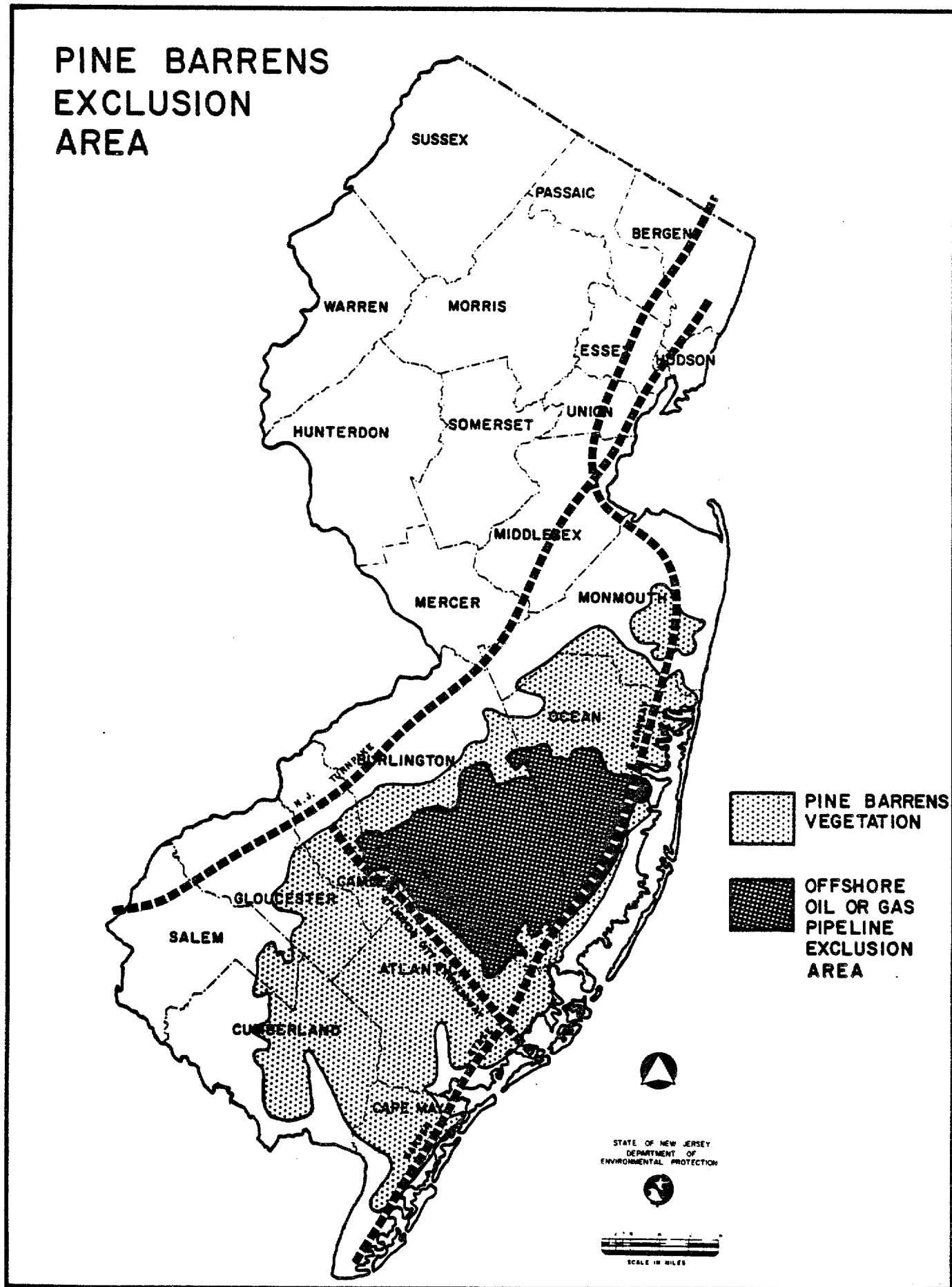
Pipelines and Associated Facilities

Policy

Crude oil and natural gas pipelines to bring hydrocarbons from offshore New Jersey's coast to existing refineries, and oil and gas transmission and distribution systems and other new oil and natural gas pipelines will be conditionally acceptable, subject to the following conditions:

- (a) For safety and conservation of resources, the number of pipeline corridors, including trunk pipelines for natural gas and oil, shall be limited, to the maximum extent feasible, and designated following appropriate study and analysis by the Department of Environmental Protection and the New Jersey Department of Energy, and interested federal, state and local agencies and affected industries,
- (b) The pipeline corridors for landing oil or natural gas are conditionally acceptable provided they follow existing already developed or disturbed road, railroad, pipeline, or other rights-of-way (such as the Atlantic City Expressway), to the maximum extent practicable,
- (c) Pipeline corridors for landing oil are prohibited in the Central Pine Barrens area of the Mullica River, Cedar Creek watersheds and portions of the Rancocas Creek and Toms River watersheds, defined as the 760 square mile region adopted by DEP as a "critical area" for sewerage purposes and non-degradation surface and ground water quality standards -- see N.J.A.C. 7:9-4.6(i), (j), and N.J.A.C. 7:9-10.1(b) and Figure 13 -- and discouraged in other undeveloped parts of the Pine Barrens,
- (d) Pipeline corridors for natural gas are discouraged in the Central Pine Barrens as defined above, unless the developer can demonstrate that the proposed pipeline will meet the adopted non-degradation standards for water quality and cause no long term adverse environmental impacts,
- (e) Proposals to construct offshore oil and gas pipelines, including all of the contemplated ancillary facilities along the pipeline route such as, for example, gas processing plants, oil storage terminals, booster stations, surge tanks, and other related facilities, shall be evaluated by DEP and the New Jersey Department of Energy, in terms of the entire new potential pipeline corridor through the State of New Jersey.

Figure 13



- (f) To preserve the recreational and tourism character of the coastal areas, new major pumping stations and other ancillary facilities to the offshore oil and gas pipelines shall be prohibited from locations in the Bay and Ocean Shore Segment, except for major gas processing plants and required compressor stations. Ancillary facilities shall be protected by adequate visual, sound, and vegetative buffer areas. Platforms for pumping or compressor stations shall be located out of sight of the shoreline, and
- (g) Pipeline corridors through the state coastal waters shall, at a minimum and to the maximum extent feasible, avoid offshore munitions, chemical and waste disposal areas, heavily used waterways, geological faults, wetlands and significant fish or shellfish habitats. Pipelines shall be trenched to a depth sufficient to withstand exposure by scouring, shipgroundings, anchors, fishing and clamming and other potential obstacles on the sea floor.

Rationale

New Jersey recognizes that pipelines, rather than other modes of surface transportation such as tankers and barges, are the preferred and more environmentally sound method of bringing crude oil and natural gas ashore from offshore wells. Pipelines affect their immediate surroundings most dramatically during construction. If construction is carried out properly, there will be short term impacts, most visible during the period of revegetation. At the same time, the potential onshore effects of pipelines on the sensitive ecosystem of the coast and the Pine Barrens, and the visual, noise, and odor impacts potentially created with the ancillary facilities associated with OCS pipelines, require that New Jersey proceed cautiously and prudently in selecting pipeline corridors, specific alignments, and locations for ancillary facilities.

New Jersey along with the numerous public and private interests at the local, state, and national levels involved in pipeline siting, expects to participate in the proposed intergovernmental offshore oil and gas transportation planning process being established by the U.S. Department of Interior, Bureau of Land Management. The Federal Energy Regulatory Commission with responsibility for siting gas pipelines, has also endorsed the concept of utility corridors.

4.4.9

Oil Refineries and Petrochemical Facilities

Policy

Oil refineries and petrochemical facilities are prohibited in areas where they might conflict with the resort-tourism industry or areas of recreational or biological value. New oil refineries and petrochemical facilities are prohibited in the

Bay and Ocean Shore Segment. Expansion in capacity of existing oil refineries and petrochemical facilities at existing sites, which are all located outside of the Bay and Ocean Shore Segment, will be acceptable if such expansion does not violate applicable state water quality standards.

Rationale

Based on the best available information, oil recovered from the Baltimore Canyon and the Georges Bank is expected to be routed by pipeline and tanker to the existing New Jersey, Pennsylvania or Delaware refineries, to replace existing imported oil. Consequently, no new refineries are expected to be necessary in New Jersey. However, the Draft EIS prepared by the U.S. Department of Interior on OCS Lease Sale No. 49 (May 1978, Vol. 3 p. 614) indicates that additional refinery capacity might be needed on the East Coast. With five of the mid-Atlantic region's ten refineries (with one out-of-operation since 1974), New Jersey has already more than contributed its regional fair share of coastal lands to refineries. Also, refineries are large-scale industrial facilities that are neither coastal-dependent nor compatible with the character of the Bay and Ocean Shore Segment.

4.4.10 Gas Processing Plants

Policy

Gas processing plants, including partial processing plants, between the offshore pipeline landfall and commercial natural gas transmission lines shall be excluded from sites within the Bay and Ocean Shore Segment and the Central Pine Barrens Critical Area, to the maximum extent practicable, and shall be located the maximum feasible distance from the shoreline. Such plants should be located close to existing petrochemical plants to which they may provide feedstock. The siting of gas processing plants will be reviewed in terms of the total pipeline routing system.

Rationale

Gas processing plants will be needed if gas is found off New Jersey's shore, but these facilities do not require locations on the shoreline. Gas is best transported by pipeline. To promote the most efficient use of land, gas plants should be located close to existing gas distribution lines. Alternatively, where gas is associated with oil in oil pipelines, gas separation plants should be located close to refineries to which the oil pipelines will be routed.

4.4.11 Storage of Crude Oil, Gases and Other
Potentially Hazardous Liquid Substances

Policy

The storage of crude oil, gases and other potentially hazardous liquid substances as defined in N.J.A.C. 7:1E-1.1 under the Spill Compensation and Control Act (N.J.S.A. 58:10-23.11) related to offshore oil and gas production is prohibited on barrier islands and discouraged elsewhere in the Bay and Ocean Shore Segment. Major new storage facilities for crude oil and gas, in the absence of processing facilities, will be permitted only outside the Bay and Ocean Shore Segment in the Port of New York and New Jersey and the Delaware River Port and where such storage will not contribute unacceptably to overall regional air or water quality degradation. Facilities for storing and distributing finished petroleum products on a wholesale or retail basis will be reviewed on a case-by-case basis.

Rationale

Major storage facilities for hazardous substances are not coastal-dependent and will not be permitted where storage might limit or conflict with recreational or open space uses of the coast.

4.4.12 Tanker Terminals

Policy

New or expanded tanker facilities will be acceptable only in existing ports and harbors outside of the Bay and Ocean Shore Segment where the required channel depths exist to accommodate tankers. Multi-company use of existing and new tanker terminals will be encouraged in the Port of New York and New Jersey and in the area bounded by the Delaware River Port Authority, where adequate infrastructure exists to accommodate the secondary impacts which may be generated by such terminals, such as processing and storage facilities. New tanker terminals will be discouraged on other parts of the coast, including the Bay and Ocean Shore Segment. Offshore tanker terminals and deepwater ports are discouraged from the Bay and Ocean Shore Region, pending a thorough evaluation of the implications of such a facility, on a case-by-case basis.

Rationale

Onshore tanker facilities pose potential adverse environmental impacts and could encourage secondary development activity that is not necessarily coastal dependent. Also, even medium sized tankers require minimum channel depths of 30 feet, which excludes locations within the Bay and Ocean Shore Region. New or expanded tanker terminals are therefore directed toward New Jersey's established port areas. Deepwater ports appear

attractive to industry due to increasingly larger tankers, limitations on dredging and the scarcity of waterfront land. However, a deepwater port may, depending on its location, cause severe adverse primary and secondary impacts on the built, natural, and social environment.

4.4.13 Electric Generating Stations

Policy

New or expanded electric generating facilities (for base load, cycling, or peaking purposes) and related facilities are conditionally acceptable subject to the following conditions:

- (a) The construction and operation of the proposed facility shall comply with the Coastal Resource and Development Policies, with special reference to air and water quality standards and policies on marine resources and wildlife,
- (b) NJDEP and NJDOE shall find that the proposed location and design of the electrical generating facility is the most prudent and feasible alternative for the production of electrical power that NJDOE has determined is needed, including a consideration, evaluation, and comparison by the applicant of alternative sites within the coastal zone and inland,
- (c) Fossil fuel (coal, oil or gas) generating stations shall not be located in particularly scenic or natural areas that are important to recreation and open space purposes,
- (d) Nuclear generating stations shall be located in generally remote, rural, and low density areas, consistent with the criteria of 10 CFR 100 (U.S. Nuclear Regulatory Commission rules on siting nuclear generating stations and population density) and/or any other related federal regulations. In addition, NJDEP shall find that the nuclear generating facility is proposed for a location where the appropriate low population zone and population center distance are likely to be maintained around the nuclear generating facility, through techniques such as land use controls or buffer zones,
- (e) The construction and operation of a nuclear generating station shall not be approved unless DEP finds that the proposed method for storage and disposal of the spent fuel to be produced by the facility: (i) will be safe, (ii) conforms to standards established by the U.S. Nuclear Regulatory Commission, and (iii) will effectively remove danger to life and the environment from the radioactive

waste material. This finding is required under present state law (N.J.S.A. 13:19-11) and will be made consistent with judicial decisions (see Public Interest Research Group v. State of New Jersey, 152 N.J. Super. 191) and federal law.

- (f) The construction of electric generating facilities using renewable forms of energy such as solar radiation, wind, and water, including experimental and demonstration projects, is encouraged in the coastal zone provided that the facilities do not significantly adversely affect scenic or recreational values.

Rationale

The siting of an electric generating station is an extraordinary event with far-reaching impacts, when compared with the typical day-to-day decisions made under the State's coastal management program. Such siting decisions therefore require special scrutiny using: (a) the State's authority in its management of state-owned tidelands and submerged lands contemplated as sites for all or part of an electric generating station, (b) the State's regulatory authority, and (c) the State's influence in federal proceedings on aspects of the siting process.

New Jersey's coastal zone, and especially the Bay and Ocean Shore Segment has experienced the consequences of several major siting decisions in the past decade and already has a diverse mix of existing, proposed, and potential fossil fuel and nuclear generating facilities, both onshore and offshore.

For example, in 1978 two nuclear generating units are in operation in the coastal zone; Salem Unit I on Artificial Island on the Delaware River in Salem County and at Oyster Creek near Barnegat Bay in Ocean County. Four additional nuclear generating units are under construction in the Bay and Ocean Shore Segment and have received the appropriate federal and state approvals, including Forked River on the Oyster Creek site in Ocean County, and Salem 2 and Hope Creek 1 and 2 on Artificial Island. The Hope Creek project, which DEP approved under CAFRA in 1975, had its genesis in a project contemplated at Newbold Island in the Delaware River, less than five miles south of Trenton. In 1973, the U.S. Atomic Energy Commission (the predecessor to the Nuclear Regulatory Commission), acting in accord with the view of New Jersey, recommended that Artificial Island would be a more suitable site than Newbold Island because of population density concerns. New Jersey's coastal zone is also the site of the proposed floating nuclear plant, the Atlantic Generating Station, Units 1 and 2, at a site in the Atlantic Ocean east of Little Egg Harbor; however, the sponsor of the project, Public Service Electric and Gas

Company, announced in 1978 a delay of at least three years in the timetable for this unprecedented project. The Bay and Ocean Shore Region also includes generating stations that have used various fossil fuels depending upon the price and availability of fuel as well as upon the applicable air quality rules.

New Jersey recognizes the interstate nature of the electric power system. Some electricity is produced in New Jersey at facilities owned partially by utilities in other states and exported to those states. New Jersey also imports electricity produced in adjacent states. In short, New Jersey is an integral part of the Pennsylvania-New Jersey-Maryland inter-connecting grid system, importing and exporting electricity from the system at different times of the day, season and year in order to generate electricity efficiently and achieve the lowest achievable cost to electricity users throughout this multi-state region.

New Jersey also recognizes that most electric generating facilities may not be coastal-dependent but do require access to vast quantities of cooling waters, a siting factor that, from the perspective of utilities, increases the attractiveness of coastal locations. This siting policy strikes a balance among various competing national, regional, and state interest in coastal resources, and recognizes some of the differences in the siting requirements of fossil fuel and nuclear generating stations.

The policy directs fossil fuel stations toward built up areas in order to preserve and protect particularly scenic and natural areas important to recreation and open space purposes. New Jersey has articulated this policy with a conscious recognition of the state's progress in attaining and maintaining high air quality. Given the use of appropriate control technology, coal-fired generating stations, for example, appear feasible at various coastal locations. The siting of coal-fired power plants in urban areas also promotes efficient energy use due to the proximity of power plants to load centers.

The nuclear siting policy recognizes public concern for the disposal of spent fuel, as mandated in 1973 by the New Jersey Legislature in CAFRA.

4.4.14

Liquefied Natural Gas (LNG) Facilities

Policy

New marine terminals and associated facilities for transferring, transforming and storing liquefied natural gas, prior to distribution by pipeline, are discouraged in the Bay and Ocean Shore Region unless the proposed facility is located or constructed so as to neither unduly endanger human life nor property nor otherwise impair the public health, safety and

welfare, as required by N.J.S.A. 13:19-10f, and complies with the Coastal Resource and Development Policies. In determining the acceptability of proposed LNG facilities, DEP shall also consider siting criteria such as: (a) applicable federal siting criteria, (b) the risks inherent in tankering LNG along New Jersey's water ways and rivers, (c) the risks inherent in transferring LNG onshore, and (d) the compatibility of the facility with surrounding land uses, population densities, and concentrations of commercial or industrial activity.

Rationale

New Jersey's policy on LNG facility siting recognizes the responsibilities of various federal agencies, including the Coast Guard and Office of Pipeline Safety Operations in the U.S. Department of Transportation, the Economic Regulatory Administration in the U.S. Department of Energy (US DOE), and the independent Federal Energy Regulatory Commission within USDOE, for management of various aspects of the siting and operations of LNG facilities. New Jersey seeks and welcomes rigorous and consistent federal LNG siting standards. In fact, the State of New Jersey petitioned the former Federal Power Commission in May 1976 for the issuance of such siting criteria. The petition (RM76-13) is still under consideration by the Federal Energy Regulatory Commission.

LNG facilities have been proposed in the 1970's in New Jersey's coastal region along the Delaware River at sites in Logan Township (Transco) and West Deptford Township (Tenneco) in Gloucester County, as well as on Staten Island, New York (Distrigas and Eastcogas), with a proposed natural gas pipeline connection to New Jersey under the Arthur Kill. As of mid-1978, none of these proposals have received the required federal approvals. The New Jersey policy on LNG policy is based in part on the results of the Federal Power Commission staff alternative LNG terminal site analysis and recommendation that the West Deptford site not be approved (see Federal Power Commission, Bureau of Natural Gas, Draft Environmental Impact Statement for the Construction and Operation of a Liquefied Natural Gas Import Terminal in West Deptford, New Jersey, Docket No. CP 76-16, Tenneco LNG, Inc., December 1976). The tankering, transfer, and storage of LNG pose significant risks to public health, safety and welfare and may cause serious adverse environmental impacts which may not be restricted to one state, given the likely potential locations of LNG terminals along interstate waterways. New Jersey therefore recommends that the siting of LNG facilities be treated as a regional issue on an interstate basis, ideally by the adoption of consistent federal siting criteria. At the same time, NJDEP and NJDOE will continue to explore the potential and likely impacts of onshore and offshore sites for LNG facilities.

4.5 Public Facility Use Policies

4.5.1 Definition

Public Facilities includes a broad range of public works for the production, transfer, transmission, and recovery of water, sewerage and other utilities, as well as public transportation facilities. The presence of an adequate infrastructure makes possible future development and responds to the needs created by present development.

4.5.2 General Public Facilities

Policy

New or expanded public facility development is conditionally acceptable provided that:

- (a) The public facility would serve a demonstrated need that cannot be met by an existing public facility at the site or region,
- (b) Alternate technologies, including conservation, are an impractical or infeasible approach to meeting all or part of the need for the public facility, and
- (c) The public facility would not generate significant secondary impacts inconsistent with the Coastal Resource and Development Policies.

Rationale

Public facilities provide important public service, but can also adversely affect the coastal environment and economy if improperly located, designed, or constructed. In particular, the secondary impacts of new public facility construction and the need for the facility require scrutiny.

4.5.3 Roads

Policy

Proposals to build new roads or expand existing roads must demonstrate a need, and indicate why alternate solutions, including, as appropriate, upgrading existing roads and/or the use of public transportation are not feasible.

Rationale

Only minor road improvements are likely to take place in the more densely populated coastal regions, which have adequate road systems. Selective road improvements should always be evaluated in the context of public transportation alternatives. New or expanded roads should facilitate public transportation and pedestrian and bicycle use.

4.5.4 Public Transportation

Policy

New and improved needed public transportation facilities, including bus, rail, air, and boat travel and related parking facilities, are encouraged.

Rationale

A basic premise of the coastal management program is concentrating the pattern of development, in part to facilitate public transportation. While new air transportation facilities appear unlikely, bus facilities and parking systems appear appropriate, particularly as a solution to the transportation problems of barrier island resorts.

4.5.5 Bicycle and Foot Paths and Fishing Platforms

Policy

The construction of bicycle and foot paths, in residential projects, and fishing catwalks and platforms on new or improved bridges, is required, to the maximum extent practicable.

Rationale

Paths for pedestrians and bicycles provide active outdoor recreation and may lead to reduced dependency on cars, particularly with increasingly compact settlement patterns. Fishing platforms also provide for outdoor recreation and must be seriously considered in the design process for new or improved bridges.

4.5.6 Solid Waste

Policy

Solid waste conservation techniques such as recycling, resource and energy recovery and volume reduction, must be explored and proved infeasible before a solid waste disposal facility, preferably at a regional scale, is deemed acceptable.

Sanitary landfills that locate in the upland must demonstrate that the leachate will not adversely impact the ground or surface waters, by using a lining and/or a leachate filtration plant. Acceptable plans for restoring the site must be submitted with the original proposal.

Rationale

Solid waste is a resource whose potential for recovery must be evaluated before locating new sanitary landfills. Further, regional solutions to solid waste management are mandated under

State law. In addition, the development of new landfills is subject to the regulations of DEP's Solid Waste Administration.

4.5.7 Wastewater Treatment

Policy

- (a) Coastal developments that do not employ the most energy-efficient wastewater treatment system practicable are discouraged. Energy efficient systems are encouraged.
- (b) On-site sewage disposal systems are encouraged where the design, installation, operation, and maintenance will be consistent with applicable ground and surface water quality statutes and regulations.
- (c) Wastewater treatment systems that recharge the groundwater with highly treated effluents are encouraged, provided that consistently high quality effluents and acceptable recharge techniques are demonstrated.

Rationale

Wastewater treatment systems range in scale from on-site sewage disposal systems to regional treatment systems with centralized plans, major interceptors, and ocean outfalls. In the past decade considerable wastewater treatment system construction has taken place or been authorized, in the more developed parts of the Bay and Ocean Shore Segment, with corresponding improvements in water quality. New wastewater treatment systems must be carefully evaluated in terms of water quality impacts and secondary impacts.

4.6 Industry-Commerce Uses Policies

4.6.1 Definition

Industry-commerce uses include a wide variety of industrial processing, manufacturing, storage, distribution, service sector, retail and similar uses.

4.6.2 General Industry-Commerce

Policy

New or expanded coastal dependent industrial or commercial development is encouraged at or adjacent to existing sites, to the maximum extent practicable. Marine resource dependent industry, such as commercial fishing, is encouraged and shall have priority over other waterfront uses, except for recreation. If existing sites are demonstrated to be impractical or the development is not coastal-dependent, then new sites may be acceptable provided that:

- (a) The development can demonstrate a high ratio of jobs created to the acres of the site used for the development, and
- (b) the development poses no conflict with resort-recreation uses of the coast and is compatible with adjacent uses.

Rationale

The sensitive land and water features of the Bay and Ocean Shore Segment, the relatively small amount of available land, and the significant adverse impacts of many forms of industrial development mandate a restrictive policy. At the same time, new and expanded light industrial parks and waterfront fish processing activities are desirable uses at appropriate locations.

4.6.3 Mining

Policy

New or expanded mining operations on land, and directly related development, for the extraction and/or processing of construction sand, industrial sand, gravel, ilmenite, glauconite, and other minerals are conditionally acceptable, provided that the following conditions are met (mining is otherwise exempted from the Land Areas policy, but shall comply with the Special Areas, Water Areas, and Water's Edge Areas policies):

- (a) the location of mining operations, such as pits, plants, pipelines, and access roads, causes minimal practicable disturbance to significant wildlife habitats, such as lowland swamp forests and stands of mature vegetation,
- (b) the location of new or expanded mining operations is generally contiguous with or adjacent to sites of existing mining operations, or probable locations of mineral resources on nearby sites, in order to concentrate and not scatter the location of mineral extraction areas within a region, recognizing that mineral resources occur only in certain limited areas,
- (c) adequate buffer areas are provided, using existing vegetation and/or new vegetation and landscaping, to provide maximum feasible screening of new on-land extractive activities and related processing from roads, water bodies, marshes, and recreation areas,
- (d) the mine development and reclamation plan, including the timetable, phasing, and activities of the new or expanded mining operations, has been designed with explicit and adequate consideration of the ultimate reclamation, restoration, and reuse of the site and use of its surrounding region, once the mineral resource is depleted,

- (e) the mineral extraction areas shall be reclaimed, contoured and replanted, to ensure slope stability, control erosion, afford adequate drainage, provide as natural an appearance as possible, and increase the recreation potential of the restored site,
- (f) the mining operations control and minimize to the maximum extent practicable adverse impacts from noise and dust, surface water pollution, and disposal of spoils and waste materials and conform to all applicable federal, state, and local regulations and standards,
- (g) the mineral extraction will not have a substantial or long-lasting adverse impact on coastal resources including local economies, after the initial, adverse impact of removal of vegetation, habitat, and soils, and not including the long term irretrievable impact of use of the non-renewable mineral resource.

Rationale

New Jersey's coastal zone includes important deposits of minerals. Mining these non-renewable resources is vital to certain sectors of the economy of selected regions of the coastal zone, the entire state and in some cases the nation, depending upon the specific type of mineral. For example, the high quality silica sands of Cumberland County supply an essential raw material for New Jersey's glass industry. Other industrial sands mined and processed in Cumberland County serve as basic ingredients in the iron and steel foundry industry. Ilmenite deposits in Ocean County produce titanium dioxide which is used in paint pigment. Construction grade sands are used in virtually all construction activity.

The extraction and processing of minerals from mines on land also produces short and long term adverse environmental impacts. For example, open-pit mining removes all vegetation and soil, destroys wildlife habitat, changes the visual quality of the landscape, and irretrievably consumes the depletable mineral resource. Many of these impacts can be ameliorated by incorporating proper, imaginative and aggressive reclamation and restoration planning into the mine development process. However, the location of mineral deposits is an unquestionably limiting factor on the location of mining operations. Reasonable balances must therefore be struck between competing and conflicting uses of lands with mineral deposits.

Depending upon the diversity and strength of a local economy, depletion of mineral deposits through extraction may lead to serious adverse long term economic consequences, particularly if the planned reclamation does not replace the direct economic contribution of the mining industry. The non-renewable nature of mineral resources must also be considered carefully in light of the uses of some of the mined minerals. For example,

certain high quality silica sands, coupled with another non-renewable resource, natural gas, are used to make non-returnable glass bottles.

4.6.4 Parking Facilities

Policy

Major parking lots, structures, garages and large paved areas serving industrial-commercial complexes are conditionally acceptable, provided that the extent of paved surfaces is minimized, the development does not cause unacceptable air or water quality degradation and the development is compatible with its surroundings and satisfies the Location Policies.

Rationale

Parking facilities provide a necessary transportation facility, but one that may cause air and water impacts.

4.7 Ports Uses

Policy

Port-related development and marine commerce is acceptable only in established port areas. Water dependent development shall not be preempted by non water dependent development in these areas.

New major port facilities will only be permitted when there is a clear demonstration of the inadequacy of an existing port. In such cases, expansion may only occur adjacent to an existing built-up port.

Rationale

New Jersey's port areas are a regional, national and international resource. The existing ports, located largely north and west of the Bay and Ocean Shore Segment, contain unused and underused areas which can be refurbished to meet increases in demand. The state must nevertheless allow for possible unanticipated future needs for port areas. Also, limited water-dependent, port-related activity is acceptable at the small commercial ports of harbors in the Bay and Ocean Shore Region, such as commercial fishing support facilities and emergency oil spill clean up storage.

4.8 Coastal Engineering Use Policies

4.8.1 Definition

Coastal Engineering includes a variety of structural and non-structural measures to manage water areas and the shoreline for natural effects of erosion, storms, and sediment and sand movement. Beach nourishment, sand fences, pedestrian control on dunes, stabilization of dunes, dune restoration projects,

and dredged spoil disposal are all examples of coastal engineering. The policies on Water Areas and Special Areas are directly relevant to most coastal engineering uses.

4.8.2 Shore Protection Priorities

Policy

Non-structural solutions to shoreline erosion problems are preferred over structural solutions. The infeasibility and impracticality of a non-structural solution must be demonstrated before structural solutions may be deemed acceptable.

Rationale

Past reliance on costly structural shore protection measures, such as groins and jetties to retard the longshore transport of sand by the littoral drift, and seawalls, bulkheads and revetments to prevent waves from reaching erodible materials has proven to be an inadequate and incomplete solution. Bulkheads are deteriorating. Groins are starving the natural longshore transport of sand. Man has modified and destroyed dunes that provide natural protection against storm surges. Inlets frequently develop shoals which prevent safe navigation. The natural processes along the shoreline must be carefully evaluated over reaches or regions of the coast to determine the likely long term effects of shore protection measures. Non-structural measures realistically recognize the inevitability of the ocean's advancement and the migration of barrier islands. Yet this concern must be balanced against the short term benefits of structures to protect the present intense recreational use of the narrow strip of oceanfront land in New Jersey.

4.8.3 Dune Management

Policy

Dune restoration and maintenance projects as a non-structural shore protection measure, including sand fencing, revegetation, additions of non-toxic appropriately sized material, control of pedestrian and vehicular traffic, are encouraged.

Rationale

A natural dune field provides a strong measure of natural protection for adjacent land uses.

4.8.4 Beach Nourishment

Policy

Beach nourishment projects, as a non-structural shore protection measure, are encouraged, provided that: (a) the particle size of the fill material is compatible with the existing beach

material to ensure that the new material will not be removed to a greater extent than the existing material would be by normal tidal fluctuations, (b) the elevation, width, slope, and form of proposed beach nourishment project are compatible with the characteristics of the existing beach, and (c) the sediment deposition will not cause unacceptable shoaling in downdrift inlets and navigation channels.

Rationale

Beach nourishment depends upon an adequate quantity and suitable quality of beach nourishment material, otherwise the material may quickly return to the ocean.

4.8.5 Structural Shore Protection

Policy

The construction of new shore protection structures, to retard long shore transport or prevent waves from reaching erodible material, including jetties, groins and seawalls, and the modification, repair or removal of existing structures, is acceptable only under the following conditions:

- (a) The structure is essential to protect heavily used public recreation beach areas in danger from erosion,
- (b) The structure is essential to protect coastal-dependent uses,
- (c) The structure is essential to protect existing structures and infrastructure in built-up, urban shorefront areas in danger from erosion,
- (d) The structure is designed to eliminate or mitigate adverse impacts on local shoreline sand supply,
- (e) The structure will not create net adverse shoreline sand movement conditions downdrift, including erosion or shoaling,
- (f) The structure will protect and enhance public access to the shorefront, including fishing and other recreation opportunities,
- (g) The structure will cause minimum feasible adverse impact to living marine resources, and
- (h) The structure is an essential element of a regional shoreline management plan.

Rationale

Structural solutions to shore protection are appropriate and essential at certain locations, given the existing pattern of urbanization of New Jersey's shoreline. However, the creation, repair, or removal of publicly-funded shore protection structures must serve clear and broad public purposes and must be undertaken only with a clear understanding of the regional consequences of natural shoreline sand systems.

4.8.6

Dredged Spoil Disposal

Definition

Dredged spoil disposal is the discharge on Land, Water's Edge, or Water Areas of sediments, known as spoils, removed during dredging operations.

Policy

The acceptability of a site for dredged spoil disposal depends first upon the extent of contamination of the spoil material. If the dredge spoils are contaminated typically with heavy metals and other toxic materials, and not decontaminated, then the dredge spoil disposal is conditionally acceptable at only approved and established land based disposal areas, new land sites or ocean sites, under the following conditions: (a) ocean sites may be used only if a land disposal site is not feasible, (b) sediments disposed in the ocean will not be carried by currents inland of the 18' contour, (c) the materials disposed in the ocean will cause minimal feasible interference with living marine resources, and (d) sediments disposed on land, such as borrow pits are covered with appropriate clean material that is similar in texture to surrounding soils.

If the dredge spoils are not contaminated, or are decontaminated, then disposal in the deep ocean (depth greater than 18') is conditionally acceptable provided that a land disposal site is not feasible. The use of uncontaminated dredge material of appropriate quality and particle size for beach nourishment is encouraged. The use of uncontaminated dredge material for purposes such as restoring landscape, enhancing farming areas, building islands, creating marshes, capping contaminated spoil areas, and making new wildlife habitats will be evaluated on a case-by-case basis.

Rationale

Dredge spoil disposal is an essential coastal land and water use that is linked inextricably to the coastal economy and has serious impacts on the coastal environment. Evolving state and federal policies on protection of the marine and estuarine coastal environment have sharply limited the creation of new

dredge spoil disposal areas in the past decade. Yet selective dredging must continue if inlets and navigation channels are to be maintained. The coastal policy recognizes the importance of this use of coastal resources.

5.0 RESOURCE POLICIES

5.1 Purpose

The third step in the screening process of the Coastal Resource and Development Policies involves a review of a proposed development in terms of its effects on various resources of the built and natural environment of the coastal zone, both at the proposed site as well as in its surrounding region. These policies serve as standards to which proposed development must adhere.

5.2 Marine Fish and Fisheries

5.2.1 Policy

Coastal actions are conditionally acceptable to the extent that minimal feasible interference is caused to the natural functioning of marine fish and fisheries, including the reproductive and migratory patterns of estuarine and marine estuarine dependent species of finfish and shellfish.

5.2.2. Rationale

Finfish (freshwater, estuarine, and marine) and shellfish resources provide significant recreation experiences for residents of New Jersey and interstate visitors. These resources also help the State's economy, by leading to expenditures approximately \$375.8 million per year, with fishing yielding approximately \$217.2 million and shellfishing yielding \$158.6 million. DEP also estimates that 1,868,000 people participated in marine/estuarine recreational fishing in 1976 in New Jersey. Commercial landings for all finfish and shellfish in New Jersey during 1976 were 226,988,000 lbs., valued at \$34.55 million dockside and an estimated \$86.3 million retail value, according to Department of Commerce statistics.

Interference with fish resources includes blockage of anadromous finfish spawning runs, reduction in the critical capacity of estuaries to function as finfish nursery areas, reduction of summer dissolved oxygen level below 4 ppm (leading to anoxic phytoplankton blooms), introduction of heavy metals or other toxic agents into coastal water, rise in ambient water temperature regime especially during summer and fall periods, unacceptable increases in turbidity levels, siltation, or resuspension of toxic agents, and introduction of untreated effluents from domestic and industrial sources.

5.3 Water Quality

5.3.1 Policy

Coastal development shall conform with all applicable surface and groundwater quality statutes, regulations and standards, as established and administered by DEP's Division of Water Resources (see N.J.A.C. 7:9-4.0 et seq.).

5.3.2 Rationale

Most of the natural, commercial, recreational, industrial, and aesthetic resources of the coastal zone affect or are affected by surface and ground water quality. Specific coastal zone water quality problems include pollution by nutrients, pathogenic organisms, toxic and hazardous wastes, thermal discharges, suspended sediments, and saline intrusion into freshwater resources. These pollutants can lower water quality sufficiently to prevent desired water uses. This policy incorporates by reference New Jersey's water quality related statutes and regulations adopted as required by the federal Clean Water Act of 1977.

5.4 Surface Water Use

5.4.1 Policy

Coastal development shall demonstrate that the anticipated surface water demand of the facility will not exceed the capacity, including phased planned increases, of the local potable water supply system or reserve capacity and that construction of the facility will not cause unacceptable surface water disturbances, such as drawdown, bottom scour, or alteration of flow patterns.

5.4.2 Rationale

The surface waters of the New Jersey coastal zone are an invaluable natural resource. Fresh waters maintain the propagation of established and natural biota. They serve as commercial, recreational, industrial, agricultural, and aesthetic resources. Any development that affects surface water quantity and quality will have a negative impact on these uses.

5.5 Groundwater Use

5.5.1 Policy

Coastal development shall demonstrate, to the maximum extent practicable, that the anticipated groundwater withdrawal demand of the development will not cause salinity intrusions into present potable groundwater well fields, significantly lower the water table, or significantly decrease the base flow of adjacent water courses.

Coastal development shall conform with all applicable DEP requirements for groundwater withdrawal and water diversion rights.

5.5.2 Rationale

Groundwater, defined as water beneath the land surface, is a primary source of water for drinking and industrial use. In

some areas of the coastal zone, especially areas in Monmouth, Salem and Cape May Counties, excessive amounts of groundwater are being withdrawn. The problem stems from the overpumping of groundwater and reduction of aquifer recharge caused by increased development and population. This has led to a lowering of the water table that may change the base flow conditions of streams, or increase salt water intrusion into the groundwater.

5.6 Runoff

Policy

- (a) Coastal development shall minimize off-site storm water runoff, increase on-site infiltration and simulate natural drainage systems, to the maximum extent practicable, depending upon the soil, land, vegetation, topography, existing drainage system and other site characteristics.
- (b) The quantity of off-site storm water runoff, both during the construction and operation of a development, shall not exceed the quantity of runoff that would occur under the existing pre-development conditions of the site, to the maximum extent practicable. For some sites, with existing pre-development conditions such as cultivated land, bare earth, or partial paving, the requirement to reduce runoff to the maximum extent practicable means to achieve the runoff standard for good condition pasture land (SCS TR-55 Curve Number 39) which may result in a greater quantity of on-site retention and infiltration than under the existing pre-development conditions.
- (c) If the site is in a built-up urban area, or if the coastal runoff policy conflicts with runoff management requirements of local governmental agencies, then the acceptable quantity of off-site stormwater runoff may exceed the standard of existing pre-development site conditions, provided that DEP can determine, on a case-by-case basis, that the following requirements are met:
 - (i) the runoff policy of (a) and (b) of existing pre-development site conditions has been met using the best available technology authorized by local regulations,
 - (ii) the off-site stormwater sewers do not discharge into sanitary sewer systems,
 - (iii) the amount of pollutants in the stormwater runoff discharge to surface water bodies is minimized and the discharge satisfies, to the maximum extent practicable, the applicable DEP-established surface water quality standards of the receiving water body using measures such as sediment traps, oil skimmers and vacuum street cleaners, and
 - (iv) the volume of stormwater discharged offsite will not cause significant adverse impacts to the receiving water body, and must conform with the requirements of the DEP Stream Encroachment Permit Program (N.J.S.A. 58:1-26 and rules).

- (d) Coastal development shall maximize the time of concentration of runoff and maximize the recharge of runoff onsite, to the maximum extent practicable, using measures such as retention or detention ponds, recharge trenches, porous paving, contour terraces, and swale-lagoon systems. Groundwater infiltration areas shall be sited as far horizontally from surface water and as far vertically from groundwater as is practicable, and should avoid soils with a seasonal high water table of less than 3 feet with high percoation rates.
- (e) In designing the site plan, including detention and retention facilities, the stormwater runoff calculations shall be based on 24 hour storm of 25 years and 100 years (where appropriate) frequencies, using standard methods of calculation, such as the so-called "Rational Method" or the SCS Tabular Method of Determining Peak Discharge, as defined in U.S. Department of Agriculture, Soil Conservation Service, Urban Hydrology for Small Watersheds, Technical Release No. 55, January 1975.

Rationale

Stormwater runoff is a natural process of surface hydrology. Development changes this process as the volume and rate of runoff increase as the natural landscape is modified and replaced by impervious surfaces. Unless managed properly, stormwater runoff may adversely affect the coastal environment in several ways: increased erosion, increased storm surges in streams, destruction of flood plain vegetation, degraded water quality from contaminants in runoff from paving, increased turbidity, decreased aquatic productivity, lowered water tables, reduced groundwater quality supply. The policies anticipate these concerns and treat a development site as a closed system within which drainage systems must be designed to interfere as little as possible with the natural process of surface and groundwater hydrology. The policies intentionally provide a measure of flexibility in stormwater runoff management that recognizes differences in both site conditions and approaches to runoff management by governmental agencies. Examples of stormwater runoff management techniques may be found in two source books: J. Tourbier and R. Westmacott, Water Resources Protection Measures in Land Development - A Handbook (Newark, Delaware: University of Delaware, Water Resources Center, April 1974) and New Jersey State Soil Conservation Committee, Standards for Soil Erosion and Sediment Control in New Jersey (Trenton, New Jersey: State Soil Conservation Committee, 1972).

5.7 Soil Erosion and Sedimentation

5.7.1 Policy

Coastal development is required to restrict soil loss and control soil erosion and sedimentation during the construction of development to the standards specified in the Soil Erosion and Sediment Control Act (Chapter 251, P.L. 1975), as administered by the State Conservation Committee and local Soil Conservation Districts under the joint authority of DEP and the N.J. Department of Agriculture.

5.7.2 Rationale

Erosion is the detachment and movement of soil or rock particles by water, wind, ice or gravity. Erosion can be significantly increased by human activities including construction practices such as the clearance of vegetation, excavation, grading, and stockpiling, agricultural cultivation and silviculture (timber harvesting).

Erosion and sedimentation cause numerous adverse environmental impacts, such as loss of productive soils, destabilization of slopes, increased flooding due to reduced capacity of storm sewers and natural drainage channels, increased turbidity and siltation of streams, and decreased wetland productivity. By controlling the erosion generated on a site within the site boundary, these adverse impacts are contained and prevented from reaching and affecting coastal waters.

Many techniques are available to control sediment loss, including minimizing the area of soil exposed at one time, baling and contour terracing the edge of construction, mulching and using swale lagoon drainage systems, and building wet and dry detention basins. Other illustrative techniques are found in Standards for Soil Erosion and Sediment Control in New Jersey available from the State Soil Conservation Committee.

5.8 Vegetation

5.8.1 Policy

Coastal development shall preserve, to the maximum extent practicable, existing vegetation within a development site. Coastal development shall plant new vegetation, particularly appropriate native coastal species, to the maximum extent practicable.

5.8.2 Rationale

The steady loss of vegetation is a nearly inevitable result of urbanization. Terrestrial vegetation stabilizes soil, retards erosion and runoff, promotes infiltration of surface water, reduces the force of wind, provides foods, shelter and breeding sites for wildlife, and adds to aesthetic values for recreation and domestic life. Trees release life-giving oxygen, filter particulate pollutants, provide foods and fuel, with no energy input necessary by man. Because each site is unique, the degree of vegetative preservation required will depend upon the environmental conditions within and adjacent to the development site. In general, the greater the intensity of development permitted, the less vegetation preservation required.

"Appropriate native coastal species" means that species selection must reflect the natural physiological limitations of species to survive in distinct habitats, which include all environmental processes (natural and artificial) that operate within a site. Non-suitable species plantings will do poorly

or die, or, if preserved through an intensive maintenance program of 'ph' adjustment fertilization and irrigation, will cause unacceptable ground and surface water impacts.

New vegetative plantings should reflect regional geophysical suitability. Illustrative appropriate species can be grouped into three categories:

- (a) Barrier Beach Sites - Plants tolerant of salt spray and occasional saline flooding, such as American holly, red cedar, black cherry, beach plum, beach grass, bayberry, beach heather, etc.
- (b) Pine Barrens Sites - Plants tolerant of infertile sandy soils, frequent fires, and acidic water, such as pitch and short-leaf pines, Atlantic white-cedar, dogwood, American holly, oaks, blueberry, etc.
- (c) Inner Coastal Plain and Southern Outer Coastal Plain - Plants compatible with fertile, well drained soils; such as oaks, beach, hickory, dogwood, black cherry, white pine, gray birch, laurel, etc.

Within these regional groupings, the selection of individual species should take into consideration the depth to seasonal high groundwater table. Species which provide food for wildlife or other desirable traits are favored for new planting.

5.9 Wildlife

5.9.1 Policy

The design of coastal development shall incorporate management techniques which favor or maintain native wildlife habitats, diversity, and numbers, to the maximum extent practicable.

Development that would significantly restrict the movement of wildlife through the site to adjacent habitats and open space areas is discouraged.

5.9.2. Rationale

Wildlife is an important natural resource of the coast. Desirable on-site wildlife management techniques which could mitigate adverse impacts, and favor minimal feasible interference include preservation and dedication to open space of sensitive habitats of sufficient width, especially along drainageways and waterways, to preserve wildlife movement corridors, placement of nesting boxes, and planting of vegetative wildlife food species.

5.10 Air

5.10.1 Policies

Coastal development shall conform to all applicable state and federal emissions regulations, ambient air quality standards, prevention of significant deterioration criteria, nonattainment criteria, and other regulations and guidelines established to meet requirements of the federal Clean Air Act as amended in 1977.

5.10.2. Rationale

The attainment and maintenance of high air quality is vital for the health of and welfare of New Jersey's residents and visitors. The federal Clean Air Act Amendments of 1977 require almost all states to develop a State Implementation Plan (SIP) to attain National Ambient Air Quality Standards (NAAQS) for photochemical oxidants.

Since the principal source of hydrocarbons and oxides of nitrogen, the precursors of oxidants, is the automobile, the strategies to attain the NAAQS must include, in addition to emission control on vehicles and industrial sources, measures to reduce vehicle miles travelled, by inducing a shift to car pools and other modes of transportation. The Coastal Program policies on transportation address these objectives, as do the policies concerning concentration of development.

Furthermore, new major stationary sources of hydrocarbons will continue to be subject to restrictions, such as the current requirement to offset emissions. Emission tradeoffs may allow for the siting of new facilities in non attainment areas of the coastal zone. The severity of the restrictions will depend on the progress made in reducing emissions during the next decade.

The problem of attainment and maintenance of carbon monoxide NAAQS in urban areas such as Atlantic City and Toms River is one primarily of traffic congestion.

DEP's Division of Environmental Quality administers the State's air quality program and determines compliance with the coastal policy on air quality.

Also, under the Clean Air Act Amendments of 1977, major wilderness areas of over 5,000 acres are mandatory Class I-Prevention of Significant Deterioration (PSD) or Pristine Areas. In New Jersey's Bay and Ocean Shore Segment, this designation applies to the wilderness areas of the Brigantine National Wildlife Refuge, and restricts industrial activities within the region that could significantly affect the air quality of the wilderness areas. This may pose conflicts in the future as the pace and intensity of the development of the Atlantic City region increases.

5.11 Public Services

5.11.1 Definition

Public services include a variety of essential facilities provided by either public or private institutions. Health, education, welfare, fire, police and community facilities are principal examples. Others such as child care and home services for the elderly may be important for certain developments.

5.11.2 Policy

Coastal development shall insure, to the maximum extent practicable, that adequate levels of public services will be provided to meet the additional demands for public services likely to be generated by the proposed development.

5.11.3 Rationale

New development places additional demands on public services. Unless the existing supply can satisfy these demands or extensions to the supply can be available when development is complete, the deficiencies may adversely affect the health, safety, or welfare of the proposed new users.

In coastal areas there are special problems associated with the high seasonal population fluctuation and the relatively high percentage of senior citizens who typically make greater demands on health services. These coastal issues make the demonstration of adequate service supply during peak demand periods an especially critical issue.

5.12 Public Access to the Shorefront

5.12.1 Policy

Coastal development adjacent to coastal waters shall provide maximum practicable public access to the shorefront, including both beach and built-up waterfront areas and both visual and physical access. Shorefront development that limits public access and the diversity of shorefront experiences is discouraged.

5.12.2 Rationale

New Jersey's coastal waters and adjacent shorelands are valuable public resources which are limited in area. They are protected by New Jersey's Shore Protection and Waterway Maintenance Program and patrolled by the New Jersey Marine Police which are both financed by all state residents.

Past developments have often blocked the waters from public view and/or made physical access to the waterfront difficult or impossible. In addition, some municipalities which own land immediately inland of the state-owned riparian land have enacted laws or regulations making waterfront access inconvenient, expensive or impossible for non-residents. These policies have served to limit the opportunity of inland residents for waterfront recreational activities.

Projects such as the experimental Beach Shuttle operated by DEP in the summer of 1977 to Island Beach State Park from Toms River serve to carry out the policy of providing maximum practical public access to the shorefront.

The basis for the Shorefront Access policy came in part from the research in the report entitled Public Access to the Oceanfront Beaches: A Report to the Governor and the Legislature of New Jersey. April 1977, prepared in part by DEP-OCZM.

5.13 Scenic Resources and Design

5.13.1 Policy

New coastal development that is visually compatible, in terms of scale, height, materials, color, texture, and geometry of building and site design, with surrounding development and coastal resources, to the maximum extent practicable, is encouraged. Coastal development that is significantly different in design and visual impact than existing development is discouraged, unless the new development upgrades the scenic and aesthetic attributes of a site and its region.

5.13.2 Rationale

Inappropriate design that ignores the coastal landscape and existing patterns and scale of development can degrade the visual environment and appearance of communities. New Jersey's coastal regions have strong architectural traditions which should be encouraged.

5.14 Secondary Impacts

5.14.1 Policy

Coastal development that induces further development shall demonstrate, to the maximum extent practicable, that the secondary impacts of the development will satisfy the Coastal Resource and Development Policies. The level of detail and areas of emphasis of the secondary impact analysis are expected to vary depending upon the type of development. Minor projects may not even require such an analysis. Transportation and wastewater treatment systems are the principal types of development that require a secondary impact analysis, but major industrial, energy, commercial, residential, and other projects may also require a rigorous secondary impact analysis.

Rationale

Further development stimulated by new development and the cumulative effects of coastal development, including development not directly managed by DEP, may gradually adversely affect the coastal environment. The capacity of existing infrastructure does, however, limit the amount and geographic extent of possible additional development. Secondary impact analysis, particularly of proposed infrastructure, enables DEP to ascertain that the direct, short term effects, and the indirect or secondary effects of a proposed development will be consistent with the basic objectives of the Coastal Management Program. Secondary impact analysis enables DEP to evaluate likely cumulative impacts in the course of decision-making on specific projects.

Secondary impact analysis must include, to an appropriate level of detail, an analysis of the likely geographic extent of induced development, an assessment of likely point and non-point air and water quality impacts, and evaluation of the induced development in terms of all the applicable Coastal Resource and Development Policies. A study by the New Jersey Department of Community Affairs, Division of State and Regional Planning, Secondary Impacts of Regional Sewer Systems (1975) provides one model for carrying out secondary impact analysis.

5.15 Buffers and Compatibility of Uses

5.15.1 Policy

Development shall be compatible with adjacent land and water types, as defined in the Location Policies, to the maximum extent practicable. In particular, development that is likely to adversely affect adjacent or surrounding Water's Edge Areas or Special Areas is discouraged.

Developments that are incompatible with adjacent developments shall provide vegetated and other types of buffers at the site boundary of sufficient width to reduce the incompatibility, to the maximum extent practicable.

5.15.2 Rationale

The juxtaposition of different uses may cause various problems. One activity may cause people to experience noise, dust, fumes, odors, or other undesirable effects. The most common incompatibility of this type in the Bay and Ocean Shore Segment are housing developments adjacent to industry, high speed roads or railroads. The juxtapositions of very different housing densities or of housing and agriculture also have potential for conflict. Vegetated buffer areas between uses can overcome, or at least ameliorate, many of these problems, especially if

earth berms are included. Buffers can benefit users of both areas. Where farms operate near a residential area, for example, a buffer can protect the residents from the noise and smells of farming, while protecting the farmers from local regulations controlling the hours in which machinery can be used.

5.16 Solid Waste

5.16.1 Policy

Coastal development shall recover material and energy from solid waste, to the maximum extent practicable, as required by the New Jersey Solid Waste Management Act (N.J.S.A. 13:1E-1 et seq.) and the federal Resource Conservation and Recovery Act (P.L. 94-580). If resource and energy recovery are impractical, solid waste, including litter, trash, refuse, and demolition debris shall be handled and disposed of in a manner acceptable to the standards of DEP's Solid Waste Administration.

5.16.2 Rationale

Solid waste is a valuable resource to be recovered and managed on a district-wide basis. The review of individual projects in terms of solid waste will consider the waste type and volume expected, disposal method employed, and effects on disposal sites.

5.17 Energy Conservation

5.17.1 Policy

Coastal development shall incorporate energy conservation techniques, including passive and active solar power, to the maximum extent practicable.

5.17.2 Rationale

This policy assists the Departments of Energy and Community Affairs in implementing New Jersey's Energy Conservation Plan, State Energy Master Plan, and the energy subcode of the Uniform Construction Code (N.J.S.A. 52:27D-119 et seq.). New Jersey's 1977 Energy Conservation Plan administered by the New Jersey Department of Energy derives from the federal Energy Policy and Conservation Act of 1975. The plan contains 22 measures to reduce the state's energy use by 6% by 1980. The measures include thermal and lighting efficiency standards, provision of car and van pools, and waste oil recycling. These measures are intended to save New Jersey approximately 110 trillion British Thermal Units annually (or the equivalent of 5,000 barrels a day). The Department of Community Affairs is responsible for the implementation of the energy subcode of the state building code. Possible energy conservation techniques

include the siting of buildings with an understanding of the micro-climate conditions of a site, use of clustering, provision of bicycle paths, and the location of housing close to public transportation.

5.18 Neighborhoods and Special Communities

5.18.1 Policy

Coastal development that protects and enhances the physical coherence in neighborhoods and special communities is encouraged. Development that would adversely affect neighborhoods and special communities is discouraged.

5.18.2 Rationale

Neighborhoods, small towns, and communities are discrete districts and areas along the coast with a degree of social stability as well as special architectural, ethnic, cultural, aesthetic, or historical qualities that distinguish these places from other areas along the coast. The diversity of the coast is in part due to the existence and vitality of various small towns, communities, and neighborhoods within larger urban areas. These neighborhoods that display a strong sense of community should be valued, reinforced, and preserved.

5.19 Traffic

5.19.1 Policy

Coastal development that induces marine and/or land traffic is conditionally acceptable provided that it does not cause unacceptable congestion and safety problems.

5.19.2 Rationale

The improper location of development may exacerbate existing traffic problems or produce new difficulties in the marine and/or land traffic system. Coastal development should be designed and located in a manner to cause the least possible disturbance to traffic systems, or be rejected.

5.20 High Percolation Wet Soils

5.20.1 Definition

High Percolation Wet Soils are soils with a depth to seasonal high water table less than or equal to five feet and with a loamy sand or coarser soil, as indicated in National Cooperative Soil Surveys prepared by the U.S. Department of Agriculture, Soil Conservation Service, and contiguous with stream channels.

5.20.2 Policy

Coastal development shall avoid filling, building, paving, disturbing soil, or discharging effluent to groundwater on High Percolation Wet Soils, to the maximum extent practicable. In particular, coastal development shall be designed such that onsite roads, parking lots, structures, subsurface sewage disposal areas, and discharge basins avoid High Percolation Wet Soils, particularly in the proximity of surface water bodies and wells. Development that is determined by DEP to be acceptable in these areas shall conform to the wet soils policy.

5.20.3 Rationale

Soils with shallow seasonal high water tables and sandy or gravelly textures facilitate percolation, the vertical and horizontal movement of groundwater. Coarse sediments, however, have a limited capacity to trap and filter contaminants. Further, the high lateral transmissibility along the top of shallow seasonal high water tables aggravates the problems of water borne pollutants eventually reaching surface water bodies or wells. New Jersey's standards for subsurface sewage disposal systems (so-called Chapter 199, N.J.A.C. 7:9-2.1 et seq.) recognize this concern by requiring that the bottom of the trench or bed of disposal fields be at least four feet above the seasonal high groundwater table.

5.21 Wet Soils

5.21.1 Definition

Wet soils are soils with a depth to seasonal high water table less than, or equal to, three feet, as delineated by the U.S. Soil Conservation Service in a National Cooperative Soil Survey.

5.21.2 Policy

Development in wet soils is discouraged unless the following conditions are met:

- (a) Basements are prohibited.
- (b) Effective engineering techniques are used to ensure the stability of foundations and protect them from movement, including excavating organic substrates and backfilling with less compressible sediments, short-bore piles, special footings and floating slabs. Techniques that minimize interference with natural ground and surface water movement, such as short-bore pile and suspended slab techniques, are encouraged.
- (c) The air spaces beneath ground floor slabs are adequately ventilated, using mechanical ventilation, if necessary.

- (d) The stability of roads and paved areas assured, using techniques such as removal of compressible sediments and replacement with a firmer substrate and thicker than normal road base.
- (e) Subsurface pipes are stable and waterproofed to avoid contamination of groundwater, using dewatering of trenches during construction, extra pipe base thickness, waterproof gaskets, sealed joints and other techniques as necessary.
- (f) Porous concrete is prohibited, although other porous pavements such as lattice concrete or gravel are acceptable.
- (g) The lowering of the water table by pumping that would disturb adapted vegetation is prohibited.

5.22 Fertile Soils

5.22.1 Definition

Fertile soils are soils that have Agricultural Capability Ratings, as defined by the U.S. Department of Agriculture, Soil Conservation Service in the National Cooperative Soil Surveys of I, II, IIIe and a K value of less than 0.20, and IIIw if well drained, or Woodland Suitability Rating of 1.

Policy

Coastal development shall avoid disturbing fertile soils, to the maximum extent practicable, and shall carefully remove, stockpile and reuse the topsoil when onsite fertile soils cannot be preserved.

5.22.2 Rationale

Fertile soils are the product of millenia of soil forming processes and, once paved, are irreperably lost. The Farm Conservation Special Area policy preserves large contiguous acreages of fertile soils for commercial production of food and fiber, but smaller areas of fertile soils in the open spaces between development are a natural resource of considerable value. The landscaping of development is promoted by fertile soils but, more importantly, the preservation of fertile soils near development offers the opportunity of home gardens. Applicants shall show the distribution of fertile soils relative to proposed structures and paving in site plans. If these development elements are shown on fertile soils, applicants shall demonstrate why alternative positions are not feasible.

5.23 Flood Hazard Areas

5.23.1 Definition

Along rivers and streams, the flood hazard area (fluvial) consists of the floodway and any additional portions of the flood plain inundated during flood periods where the flow exceeds the capacity of the channel. The floodway consists of the stream channel and portions of the adjacent flood plain necessary to carry and discharge the flood water or flood flow of any natural stream. Floodways can carry waters of 100 year flood without increasing the water surface elevation by more than 0.2 feet at any point.

Fluvial flood hazard areas are delineated by DEP by a complex engineering method. The resulting water surface profile elevations are superimposed on topographic maps to identify areas of inundation. DEP is presently delineating all flood hazard areas. Delineations have been completed for the entire Raritan River Basin, outside of the Bay and Ocean Shore Segment. Of 6,500 mile of streams in New Jersey, 618 miles have been delineated and an additional 216 miles are scheduled for completion by the end of 1978. The U.S. Army Corps of Engineers has defined, for certain streams, the water surface profiles which have been developed for both the floodway and the flood hazard area design floods. However, the delineation of the flood hazard area must be determined on a case by case basis due to lack of accurate elevation maps. A complete list of streams affected by this delineation can be found in the N.J.A.C. 7:13-1.11 et seq. In areas where the delineation of flood hazard areas using this engineering method is not complete, DEP determines the flood hazard areas on a case by case basis using detailed elevation and stream profile information submitted by the applicant as required by DEP. Where data gaps exist, flood hazard areas can be preliminarily identified by the use of U.S. Geological Survey Flood Prone Areas maps (scale of 1:24,000), supplemented with alluvial soil information for the small watersheds in the upland alluvial flood plains.

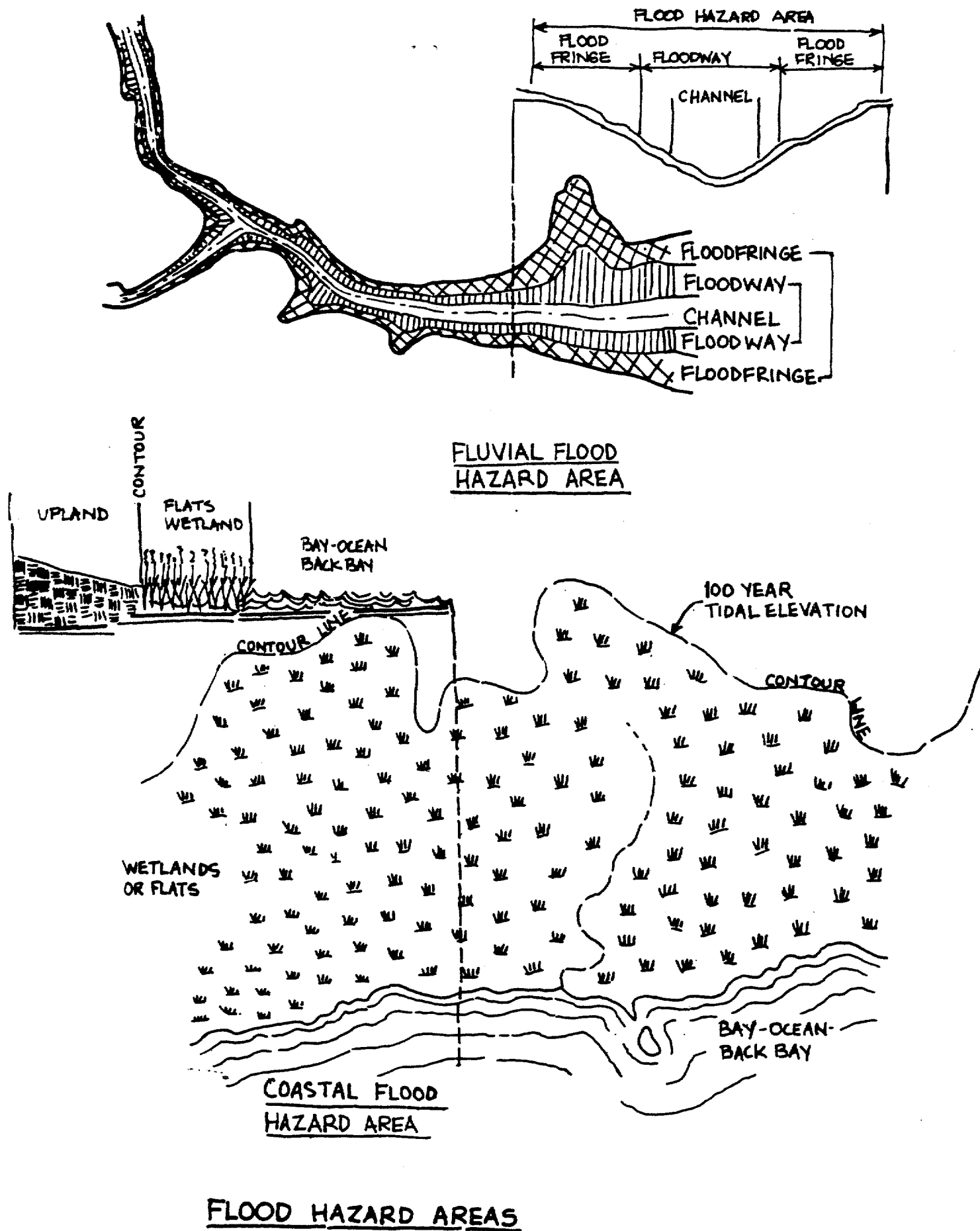
In the tidal areas, 100 year tidal elevations have been identified for most municipalities within the Bay and Ocean Shore Segment by the U.S. Army Corps of Engineers, and are known as the Intermediate Regional Tidal Flood. The geographic extent of tidal flood hazard areas are indicated on USGS topographic maps as "flood prone" areas (there are no floodways in tidal flooding).

Figure 14 depicts fluvial and tidal flood hazard areas.

5.23.2 Policy

- (a) In general, coastal development is discouraged in flood hazard areas.

Figure 14



- (b) Certain land uses are prohibited, under State Flood Plain law and rules, in the floodway portion of fluvial flood hazard areas, including uses such as placing, depositing or dumping solid wastes on the delineated floodways; processing, storing or disposal of pesticides, domestic or industrial wastes, radioactive materials, petroleum products or hazardous materials; erection of structures for occupancy by humans or livestock or kennels for boarding of domestic pets; storage of materials or equipment or construction of septic tank for residential or commercial use (see N.J.A.C. 7:13-1.2 et seq.). Not affected by this policy are hazard-free activities such as recreation, agriculture, soil conservation projects and similar uses which are not likely to cause obstructions, undue pollution, or intensify flooding. According to N.J.A.C. 7:13-1.4(c), any lawful, pre-existing prohibited uses may be maintained in a delineated floodway provided, that if expanded or enlarged, they do not increase the flood damage potential. Property owners in delineated floodways may rebuild damaged structures, providing that any expansion or enlargement will not increase the flood damage potential.
- (c) Most land uses are also regulated, under State Flood Plain law and rules, in the flood fringe. Structures for occupancy by humans are conditionally acceptable provided that : (a) the first habitable elevation is one foot above the 100 year flood prone line established by HUD Flood Insurance Maps, and (b) the structure will not increase flood damage potential, by obstructing flood waters.
- (d) Construction acceptable in flood hazard areas must conform with applicable flood hazard reduction standards, as adopted by the Federal Insurance Administration in HUD (Federal Register, Vol. 41, No. 207, Part II, October 26, 1976), as amended.

5.23.3

Rationale

Past development of lands susceptible to flooding in New Jersey has led to flood damages, with sometimes tragic social, economic and ecological consequences. Intensive development of flood plains leads to increased runoff, reduction in flood storage capacity, increased size and frequency of downstream flooding, erosion of stream banks and downstream deposition of sediments with consequent reduction in estuarine productivity. Flood plains serve as important wildlife habitat for endangered and threatened species, game and fur-bearing species, and rare species of vegetation.